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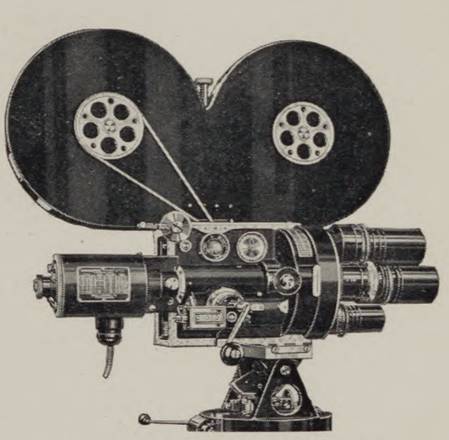

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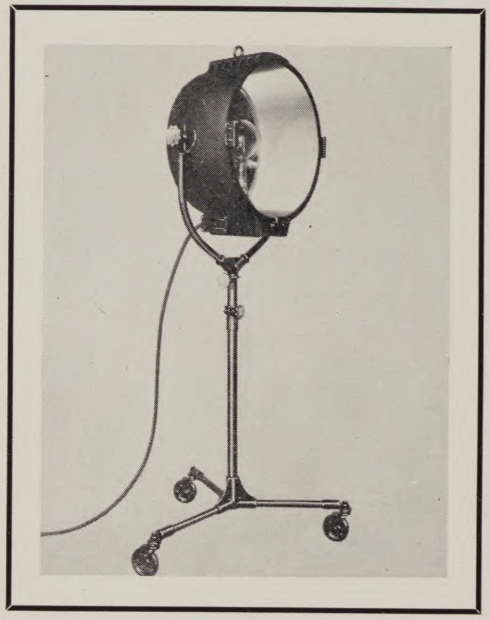

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CINEMATOGRAPHER

A Technical and Educational Publication, Espousing Progress and Art in Motion Picture Photography

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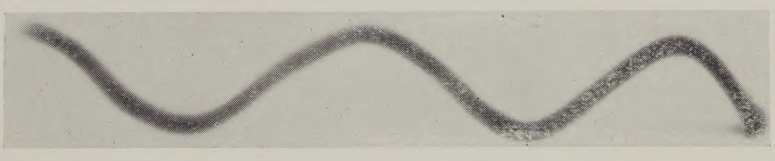

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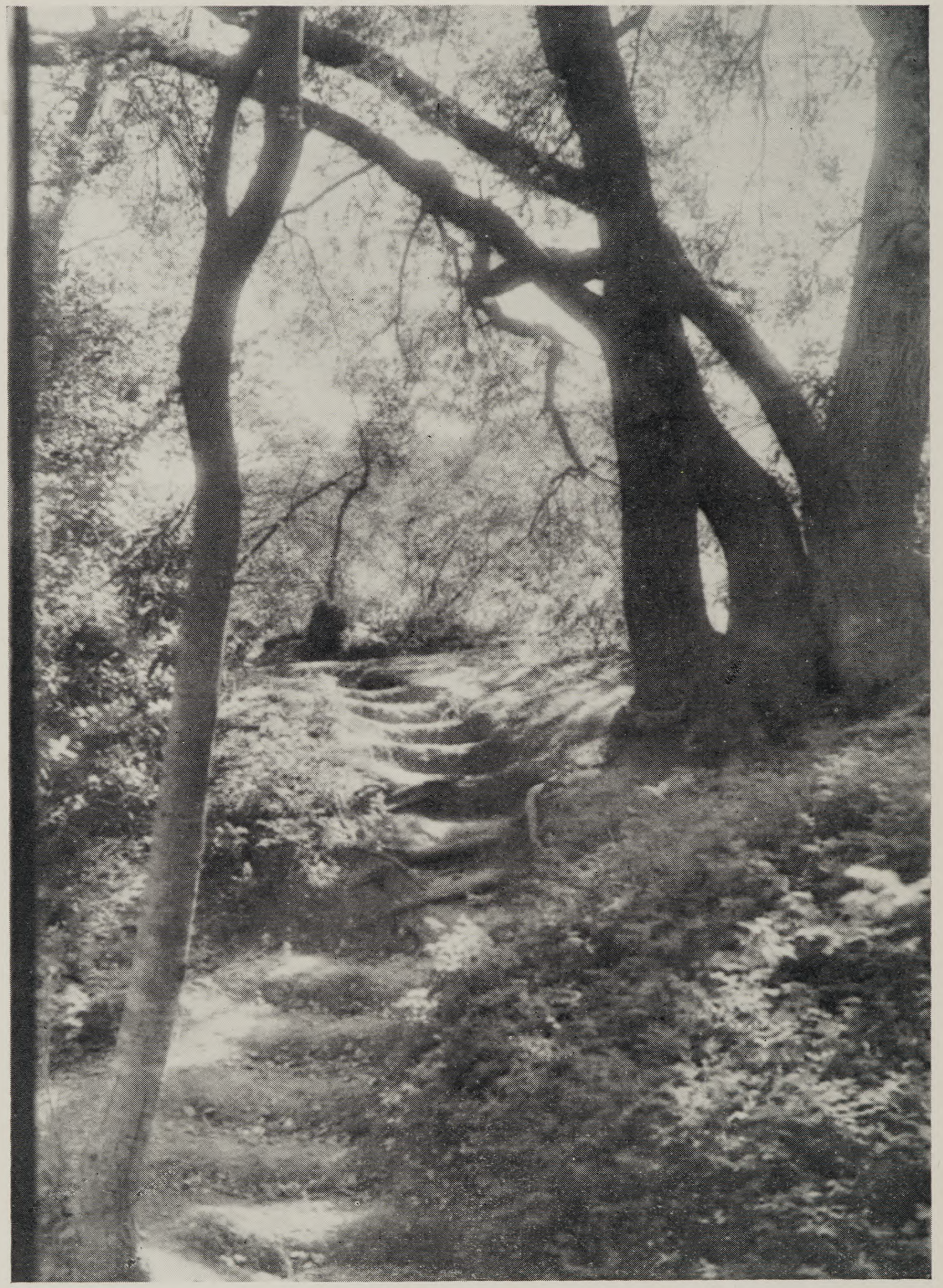


The Trail **Jackson J. Rose, A. S. C.**

John Arnold Elected President of American Society of Cinematographers

Three New Members Added to Board of Governors

by **HAL HALL**

JOHN ARNOLD, head of the camera department at the Metro-Goldwyn-Mayer Studios, was elected President of the American Society of Cinematographers at the annual election of officers of the society held on April thirteenth. Mr. Arnold succeeds Hal Mohr, who held the office for the past year.

Other officers elected were: Victor Milner, First Vice-president; John W. Boyle, Second Vice-president; A. L. Gilks, Third Vice-president; William Stull, Secretary; George Schneiderman, Treasurer. Mr. Milner and Mr. Stull held the same offices last year.

The new Board of Governors chosen by the society is the same as the previous year with the exception of three members: Gilbert Warrenton, Ray June and George Schneiderman. The complete Board chosen follows: John Arnold, John W. Boyle, Daniel B. Clark, Charles G. Clarke, Elmer Dyer, A. L. Gilks, Fred Jackman, Ray June, Victor Milner, Hal Mohr, George Schneiderman, John F. Seitz, William Stull, Ned Van Buren and Gilbert Warrenton.

The installation banquet was held on Monday evening, April twentieth, at the Uplifters Club, Santa Monica, with more than sixty members present. This meeting was one of the finest and most enthusiastic gatherings of A. S. C. men in years, and, judging from the enthusiasm displayed, the A. S. C. is facing what should be the most successful year in its history.

Hal Mohr, retiring President, was master of ceremonies at the dinner. In his introductory remarks he reviewed briefly the events of the past year, and thanked the members for their splendid cooperation. He pointed out the remarkably healthy condition of the society and urged all to give the same cooperation to Mr. Arnold.

President Arnold gave great indication of being a truly splendid leader, for he presented no platftorm; declaring that in his belief the laying of a platform by a President is not the best policy because of the fact that most platforms cannot be carried out according to promises.

"I have no platform," said President Arnold. "Instead, I give you my solemn promise to work hard, sincerely and constantly for the good of the organization and of the cameramen. That is all one can do—work as hard and faithfully as possible. I have one aim—that is to make the American Society of Cinematographers an even still greater organization than it already is. We have a splendid society. We must not only keep it so, but must make it better; make its influence felt even more widely. The only way to accomplish this is for every one of us to give the best we have."

(Continued on Page 22)

John Arnold

The Principles of Sensitometry and Their Practical Application

by **EMERY HUSE**

West Coast Division Motion Picture Film Department, Eastman Kodak Company

[It is the intention of the technical editor, as author of this series of articles, to enter into a rather detailed discussion of the general principles of sensitometry. These principles will be stressed first, followed by a discussion of the applications of these principles as control elements in the motion picture field. Of course these principles apply to any branch of practical photography but as the motion picture field is probably the largest commercial photographic venture, it is here that the need of scientific control is strongly recognized. This is especially true in sound photography but the laboratory is also rapidly applying sensitometery to control all photographic phases of its work. It is hoped that such discussions will bring a new and better understanding of the technicalities underlying photography and will greatly clarify the minds of those to whom sensitometry seems a trick rather than one of the most valuable tools of photographic procedure.

Photographic literature is filled with books and articles covering the various principles of sensitometry and their application in practical photography. Most books of this type attempt to cover the entire photographic field and as a result there is no complete treatise of sensitometry that can be viewed in the light of a reference book. A serious attempt will be made to have this series of articles fill such a field.

Before entering into a discussion of the subject of sensitometry there are many preliminary items to be cleared up. The logical starting point must deal first with the historical aspects of photography, and secondly with the introduction and expansion of the basic principle underlying sensitometry as originally specified by Hurter and Driffield.—Editor's Note].

Brief History of Photography

PROBABLY the first person to notice that silver salts were darkened by light was J. H. Schulze, who made the discovery in 1732. Undoubtedly others observed this phenomenon at about this same time. No photographic use was made of this discovery until about 1802 when Wedgewood published a paper entitled "An Account of a Method of Copying Paintings on Glass and on Making Profiles by the Agency of Light Upon Nitrade of Silver." Wedgewood conceived the idea of making silhouettes by using paper treated with silver nitrate. He also was one of the first to take photographs in the "camera obscura". The camera obscura consisted of a box with a lens at one end and a ground glass at the other. After focussing his image his prepared paper was substituted in place of the ground glass and photographic images were recorded. Very little success was achieved by this method due to the extremely low sensitivity of the photographic material. It was left to Sir Humphrey Davy, who continued Wedgewood's experiments, to more or less successfully make photographs using a microscope with the sun as the light source. These attempts of Davy's no doubt constitute the first picture made by means of a lens on a photographic material.

The difficulty in his method was that it was impossible to make the image permanent. It was quite some time later before fixation was discovered and along with it development. This work was advanced considerably by Fox Talbot in the middle of the nineteenth century and his work was succeeded later by the wet collodion process. In the meantime Niepce and Daguerre were working independently on various methods of recording photographic images. Later these two entered into a partnership and in 1839 published the method of photography which was named "Daguerreotype." This was really the first portrait process and became very popular. However, it was more or less a departure from the emulsion process of photography which is known and used generally today.

The collodion wet plate was made by dissolving nitrated cotton, such as is now used for the film base, in a mixture of ether and alcohol. The worker of the wet collodion process had to make his own plates at the time when he wanted to take a picture. He would clean a piece of glass and coat it with the collodion in which the chemicals were dissolved and then put the plate in a bath of silver nitrate which formed silver iodide in the collodion film and made it sensitive to light. The plate had to be exposed while wet and immediately after exposure it was developed by pouring the developer over it. This process of course was filled with many difficulties and the making of a photograph was a very tedious task.

These difficulties disappeared with the coming of the gelatin emulsion process, which is in use today in all fields of photography. The gelatin solution with the silver is called an emulsion because of the way in which the silver remains suspended in the gelatin. The first gelatin emulsions were made in 1871 by Dr. Maddox. In those days all negatives were made on glass plates as that was the only medium on which it was conceived possible to coat the sensitive emulsion.

The discovery of film base came about somewhat by accident. After the invention of "stripping film," George Eastman continued his experiments trying to find a light flexible support for the emulsion to be used in place of the brittle and heavy glass. During his experiments he one day tried soluble cotton and wood alcohol as a varnish. This was very thick and like strained honey and Mr. Eastman knew at once that he had made his first step in the production of the long awaited base. Thus the present nitro-cellulose film base came into being in August, 1899, and amateur photography was born. This discovery made motion pictures possible.

Photography in the past decade has advanced materially, and has led up finally to the present day high quality Panchromatic Negative emulsions, together with Positive, Duplicating, and other special types of film emulsions.

(To be continued)

New Pacent Reproducer

STATING the company is ready to make immediate deliveries and that the average exhibitor will be able to save 20 per cent, Louis Gerard Pacent, president of Pacent Reproducer Corporation, announces the new series of "Z" reproducer, specially designed for smaller theatres. Among the series the double projector sound-on-film installation at $1,695 is expected to be the most popular model.

In line with the company's outright policy no compulsory service charge is demanded. The apparatus is purchased outright at prices ranging from $795 to $2,295.

Prices include complete equipment, which is A. C. operated. Simple in operation without any complicated mechanism is one of the four important factors outlined by the company. Other relevant points are that the compact installation eliminates possibility of a bulky power plant, no dead-spots, no distorting horn speakers to disturb even sound distribution and no crackling noises and no fluttering sound in reproduction.

Super-Sensitive Film in Production

by **OLIVER MARSH, A. S. C.**

EVERYONE who is intimately connected with the technical side of the motion picture industry is agreed that the recent introduction of Super-Sensitive Panchromatic film is perhaps the greatest forward step in cinematographic technique since the introduction of the Incandescent light. In this they are quite right; anything that will aid the cinematographer in his effort to put the best possible picture on the screen is of vital importance to the industry as a whole, and the introduction of Super-Sensitive Panchromatic film has afforded him such a powerful means of bettering his work that its value is of fully as great importance as its most ardent advocates could desire.

But after having used this new film to photograph two successive productions—"Cheri Bibi" and "Dancing Partners" for Metro-Goldwyn-Mayer—it seems to me that all of us, technicians and laymen alike, have looked at this film from the wrong angle. We have stressed its greater sensitivity, or speed, far too much, and almost completely overlooked the fact that its greatest advantage is its immeasurably superior rendition of color.

After all, it is of relatively little importance to the studio cinematographer that it is some forty per cent more sensitive to light. Even in this period of hard times, no studio is going to be "saved" by a mere reduction of thirty-five or forty per cent in the quantity of current consumed in lighting its productions. Such a monetary saving is important, of course, but it is valueless if the quality of the picture which ultimately reaches the screens of the world is harmed. Therefore this new film is of merely minor importance if it brings only increased speed, without improvement in photographic quality. If it brings increased speed plus some improvement in quality, well and good. But if it brings not only a considerable increase in speed, but also a proportional increase in photographic quality, then truly is it a great advancement in cinematographic technique.

And this new film is exactly that. It gives an increase of some forty per cent in speed—which is by no means unimportant—and it gives an even greater improvement in photographic quality—which represents its real claim to importance for studio work. Speed alone is sometimes an advantage in studio production, but improved photographic quality is invariably of vital importance. And since the new Super-Sensitive film embodies both of these qualities to a high degree, it is of actual, practical value in our exacting work.

It is generally conceded that the best rendition of color is that which most closely approaches the natural visual brilliancy. The old Orthochromatic film distorted these relative values very badly, despite anything that we cinematographers could do with filters and careful arrangement of lights. We were satisfied with it because we had to be, since nothing better was available. Then came the first Panchromatic film. This was a memorable advance, for it allowed us to achieve a closer approximation of what we actually saw on the set. By the time that we were fairly well accustomed to using "Pan," along came the Mazda light, and an improved Panchromatic emulsion, the familiar "Type Two Pan." By this time, we have learned to use these new tools quite effectively, and our pictures bear witness to the fact that we are now getting quite good color rendition and tonal quality. But even this is noticeably short of perfection. Our blues no longer reach the screen as a muddy white, nor do our reds and greens photograph between a dark gray and black. Intermediate colors reproduce in a respectable range of half-tones. But they do not reach the screen with the same relative brilliancy that we actually see. We are still short of perfection.

With the new Super-Sensitive Panchromatic film, however, our cameras can now see things much as our eyes do. When the Art Department hands us a set to photograph, we know that we can now pass that set on to our audiences with its tonal values practically intact, though in monochrome. Our time and ingenuity will no longer be spent in an effort, with lights and filters, to prevent our films from distorting the tonal contrasts achieved by the Art-Directors and Costumers.

But to secure these advantages of tonal quality and color separation, we must make sure that they are first in the set, and that the sets are then lighted in a manner that will enhance these tonal contrasts. Many cinematographers who have tried the new film have overlooked the importance of these details, and have accordingly been disappointed with the flatness of their results. Too many of them have confused improved speed with exaggerated contrast. This is a grave injustice to a truly excellent film. It can not be expected to do something that it is not intended to do. Our aim today is natural tonal contrast with an artistic softness; but this softness can never be achieved by flat lighting. We can— and should—use a soft lighting, yes, but it should be normally balanced, sacrificing none of the tonal and physical contrasts which we wish to preserve, though keeping to a uniform degree of softness throughout. As a rule, we should work with a normally balanced lighting, taking pains to enhance the contrasts which we wish to preserve, and trust to the film not only for better color-separation, but for the desired softness, as well.

Of course, the less that is said about lighting, the better, for no two cinematographers work in quite the same manner. But one thing I must say: just because the new film is in the neighborhood of forty per cent faster, do not be deluded into altering the balance of your lighting. If you can make a forty per cent decrease in the total amount of current consumed on your set, well and good; you can save quite a bit of money that way, and the financial gentlemen in your company will hardly like you any less for it. But if you try to make this reduction in lighting at the expense of your natural balance, it will seriously effect the quality of your picture. Don't be deluded into trying to make this reduction in the number of units you use, for you've got to have a certain number of light-sources to preserve your balanced lighting: use smaller globes in your present equipment, and arrange things just as you always have. In that way you will be able to secure all the advantages of Super-Pan film without running the risk of the inevitable disappointments which attend its unintelligent use. You will find that the tonal quality, color-separation, and general gradation of your picture will be vastly improved, and with this improvement will come a surprising improvement in perspective. I have seen comparative tests, made with the same camera, lens, and set-up, but with Type Two Panchromatic and Super-Sensitive Panchromatic films, in which the difference in perspective was so marked as to make experienced cinematographers doubt that the same lens was used in both instances. But, above all things, remember that while cinematography has never been a task for the thoughtless workman, it is vastly less so now that we have so sensitive a tool as this new super-film; and the measure of the results obtained from Super Pan is exactly the measure of the care and thought put into its application to the problem in hand —getting the best and most natural picture in the most efficient way.

Practical Portable Sound Equipment

by ARTHUR REEVES

AFTER all the sound track is the thing. To get this result we must take into consideration many things, the recording and the development of the sound track. I could dwell an entire page upon the development of sound track. But at this time the most important thing is sound equipment. The two most important factors in the developing of the sound track is the light transmission of the track and the gamma which is the relation of the exposure to the contrast. The gamma is a term used in the measuring of the contrast of the sound track.

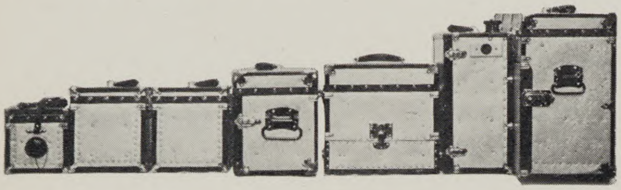
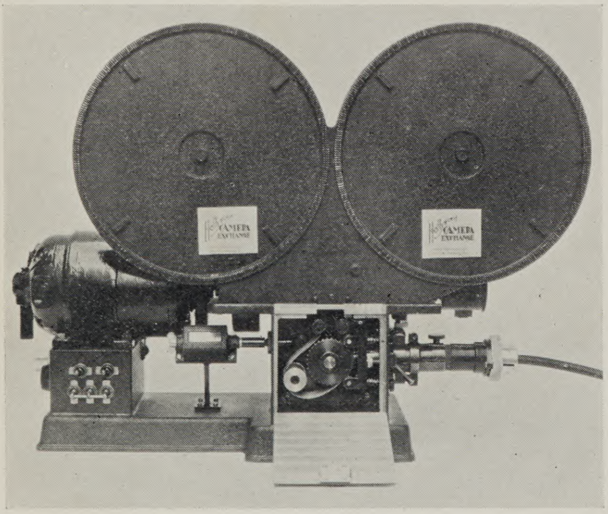


Figure 1

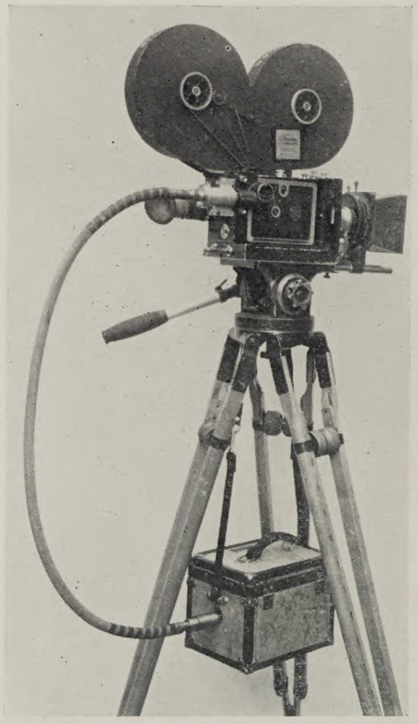
There are two systems of sound track recording in use today. One is the single system used by news reels and the double system that is used in the studios of Hollywood. The single system records the sound track simultaneously in the camera upon the same negative as the picture is being taken upon. The double system implies a sound camera running in synchronization with the picture camera. The sound camera, of course, uses positive film with which to record the sound. While the picture taking camera, as usual, uses the negative film.



The Recorder

One of the most successful single systems in use today is the Fox Movietone and these cameras were specially built by the Wall Machine Works in Syracuse, New York, at a cost of approximately $10,000.00 each. It has been understood that this cost was due to the accuracy that was demanded of this type of camera. It is almost impossible to rebuild a camera that will run absolutely accurately and have constant motion. At this time there are none of our regular camera manufacturers making a special camera for sound recording. It has been rumored that one of our large camera manufacturers will put on the market in a short time a specially designed silent camera with a filtered sprocket for sound and will be specially adapted for the use of the single system. When this camera appears upon the market, the Audio-Camex will then put out a single system that will be worthy of its name.

The double system uses a separate recording head which was specially designed for sound work and runs with a constant motion giving a perfect sound track. The double system also gives the laboratory a chance to handle the sound track negative in the proper way. The double system also enables the cutter to cut the picture and track separately. It also enables the making of sound separate from the camera and has many other uses. Every studio in Hollywood uses the double system.



The camera, showing mounting of D. C. interlock motor

The Audio-Camex, double system, consists of seven cases. These cases are metal covered with angle iron all around with strong construction. They are built to withstand the hard usage usually given to camera equipment. The cases are of the natural light color and reflect the heat which is necessary in hot weather. They also do not contain glue or leather as it is known that leather will mildew in humid climate, and in certain countries ants will eat glue. The empty cases alone are about one third of the total weight of the total equipment. In figure one, case No. 1 contains the camera motor, case No. 2 contains the camera motor battery, case No. 3 contains recorder motor battery, case No. 4 contains the

(Continued on Page 21)

Ground Noise Reduction

R-C-A Photophone System

by **HUGH McDOWELL, Jr.**

DURING the filming of the R-K-O production, "Hit the Deck," in September, 1929, musical effects were desired that would produce extremes in volume beyond the range of the normal variable area recording system. At this time, Mr. Carl Dreher, Director of Sound at R-K-O Studios, mentioned to the writer a system of recording by Mr. C. R. Hanna, of the Research Laboratory of the Westinghouse Electric & Manufacturing Company, for the purpose of eliminating ground noise and consequently permitting greater volume spread.

The writer was much impressed by the principle that Mr. Hanna had made use of, namely, eliminating the unused clear portion of the sound track in the variable area method of recording, and proposed further investigation. The objection was raised, however, that as this system displaced the position of the sound track at minimum modulation to the edge of the film, it was of doubtful utility in commercial projection machines, as any weave in the film in its travel might cause it to lose contact with the scanning beam during intervals of low modulation. The writer thereupon set about devising a system which would retain the advantages of Mr. Hanna's, but would keep the sound track at all times in the center of the seventy mils allotted to it on the film. The writer is also indebted to Mr. C. W. Hewlett, of the General Electric Company, for the use of a portion of his system which is similar to Mr. Hanna's.

Two Recording Essentials

Natural sound film recording must meet two essential requirements, namely, good quality of pickup, and range of sound from soft to loud with only a tolerable amount of noise. In standard methods of recording, the former is accomplished, while the latter is restricted to the limiting factor of ground noise caused by the unused clear portion of the emulsion on the film, admitting unnecessary light to the photoelectric cell of the reproducing equipment. As the light reaching the photocell is in effect the carrier of all current within the cell, it is evident that unused clear portions of the film cause the cell to produce energy not required by the legitimate sound, thereby producing extraneous noise in the output.

Noise is also produced by the transparent portion of the film not being totally clear, but containing dirt, scratches, etc., which disturb the carrier in such manner as to cause additional noise, in effect, reproducing the dirt, scratches, etc. It is obvious, therefore, that in the standard method of recording sound volume reaching the film must at all times be adequate to overcome the ground noise factor, which remains constant. This requirement restricts the compass of electrically reproduced music and is an obstacle to natural and effective reproduction.

The remedy for this condition in variable area recording is found in eliminating the clear portion of the film, except at times when the modulation requires it. With this accomplished, it is possible to allow the modulation to fall to its natural minimum and rise to its natural maximum, for with the clear portion of the film eliminated, ground noise no longer remains a constant quantity, but changes in proportion to the degrees of volume.

Roughly, in standard methods of recording, the volume range from minimum to maximum is approximately 20 db., while with the anti-ground noise methods of recording described herein, the volume range may be extended to approximately 35 db.

Electrical and Mechanical Design

The following description of the device does not take into account later simplifications in design.

Connected to the output of the recording amplifier is a two-stage amplifier of sufficient power to operate a rectifier tube following. The d c output from the rectifier is then passed on to a direct current amplifier which amplifies the d c impulses of the rectifier, increasing their amplitude to any desired point, by varying the input voltage on the two-stage amplifier. The d c impulses are then fed through one-half of a voice coil of an electro-dynamic shutter movement to a resistance and battery of low voltage which aids the flow of current from the plate circuit of the d c amplifier to ground. Across the aiding battery and ground is connected the remaining one-half of the voice coil which is excited by the aiding battery when the normal plate current is depressed, due to rectified modulation.

It is seen, therefore, that two voice coils in series in this manner are excited in such a way as to cause one coil to exert pressure, when excited, in one direction, while the other coil exerts an opposite pressure when excited in the other direction. This balanced circuit of voice coils in the magnetic field causes pressure to be exerted equally and oppositely in both directions, and in opposite phase. To these voice coils is directly attached a moving shutter actuated by the voice coils which is placed mechanically in the beam of light reflected by the vibrating element of the recording system. The shutter, therefore, moves in proportion to the amount of input to the two-stage amplifier, moving outward under pressure of the rectifier and voice coil to accommodate the peaks of the modulation on the film, and moving backward when the modulation decreases, also under pressure of the voice coil. It is obvious, then, that electromagnetic pressure is exerted in both directions in the functioning of the shutter.

The electromagnetic assembly is supported mechanically by a lathe carriage arrangement so that manual adjustments may be made to place the shutter in the proper position with respect to the light beam.

The vibration of the shutter is in exact accordance with the d c impulses of the rectifier, and, therefore, it admits light to the extent required by the peak modulation reaching the film at any given instant. When no modulation occurs, the shutter is adjusted to admit to the film light approximately five thousandths in width as against thirty-five thousandths width for the normal variable area recording system. It is seen by this that there remains about ten per cent of the clear portion of the film that formerly existed. This factor in turn admits only about ten per cent of the light formerly reaching the photo-electric cell in the projector, cutting down overall excitation of the photo-cell when no sound is in evidence, and consequently reducing extraneous disturbances in the cell.

Equipment Used

The equipment used in recording during 1930 consisted of a two-stage amplifier-rectifier and direct current amplifier built in a steel box 18x18x8, internally divided, the partition separating the d c amplifier, from the other units. The two-stage amplifier is operated from a small B-supply working from 50-cycle alternating current and supplying 250 volts to these stages. The direct current amplifier consisted of seven

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Sound and Speech in Silent Pictures

by ARTHUR EDWIN KROWS

THE voice that is now brought to the heretofore silent screen is not in itself a new expression, but a new aid to expression. That it enables the artist to approximate life more nearly is comparatively unimportant, because the purpose of art is not the precise imitation of life but its interpretation. The films of the future will not be any more original in essential thought because of the super-addition of voice than bygone silent pictures; but because of voice their expression will be more flexible.

The prime caution is never to think of the spoken word merely as sound. The voice makes a sound, but the word uttered may express the reverse of sound. For instance, the clerk of the court may call out in stentorian tones, "Silence." Or, going into other seeming contradictions, the well-known giant, muttering his "fe-fo-fi-fum," may continue, "I smell the blood of an Englishman." Or Gaffer Hexam (in Our Mutual Friend) may remark, as he steals a sixpence from a body floating on the Thames, that, "It feels cold and clammy and wet." Or the proud Balboa, extending his vision by poetic license from "a peak in Darien" to the Pacific Ocean, may utter raptures concerning what he sees. In short, the spoken word may easily appeal also to any of the five senses other than that of hearing.

So it is that the spoken word is usually, and perhaps quite invariably, a symbol for something else. It requires translation by the listener, whose imagination completes the suggested idea. It is that something else—whatever it may be—that measures the true effectiveness of the speech. Speech is the vehicle and not the end. The eloquence of Demosthenes, as that of Lincoln, was less in what he said than in what he literally thought. Thus it is that the expert stage dramatist writes his play not in words but in the ideas that the words are intended to convey—the reactions of the audience; and in this attitude of mind he is able to detach himself from the tyranny of words as such, and not use them at all if some of the other resources of his medium will at the given moment serve him better. In the theatre of today dialog is crisp and snappy in its interchange partly because the great alteration in living conditions demands a more telegraphic style, and more because many other factors have been developed to carry on the play. Shakespeare's stage was so meagerly equipped that the dialog had to state that the scene was a forest, a palace, a street—that it was day or night, and many more clues to circumstance that a random dip into any of his masterpieces will soon disclose. Nowadays scenery and lighting particularly relieve dialog of these unfair burdens and relate it far more nearly to every-day speech.

Talkie Lessons From Movie Titles

Strictly speaking, the strange new element is sound and not speech. Speech has been joined with motion pictures since their infancy in the shape of the printed "titles"—or "legends" or "captions"—upon the screen; and in the artistic sense speech of that sort is not much more second-hand than that which is directly spoken. As the word that is heard by the ear commonly has to be translated afterward by the brain as something other than sound, the printed word seen by the eye frequently also has to be translated because it has nothing to do with sight directly.

When the talkies permanently came, speech was already so far a part of motion picture practice that one-third of the footage of the average reel consisted of titles. Attempts had been made, every couple of years, to prove that the motion picture art was in its zenith when a picture had no titles, among the interesting later productions of this sort being a version of James Whitcomb Riley's "The Old Swimmin' Hole," starring Charles Ray, and "The Last Laugh," starring Emil Jannings and directed by another superb artist, F. W. Murnau. But because speech, even in printed title form is so naturally and easily a part of motion picture appeal, its elimination upon such arbitary grounds as provided by what here seems to be an over-nice and possibly mistaken artistic sense, has not been approved by the industry at large. On the contrary, titles have been pushed to the apparent limit of their expression, the records showing a wide variety of experiments to develop their effectiveness.

Experiments With Printed Speech

As many years ago as the heyday of the old Lubin Studio at Philadelphia, there was tried out a scheme whereby the witnesses in a courtroom scene gave their testimony in words double-exposed in dark areas over their heads on the actual picture. In a much later but now long-past feature called, if memory serves true, "Sporting Life," the action of the scene suddenly "froze," so to speak, and became a background of the printed title imposed over it—a method tried anew by George Loane Tucker in 1915-1916, when that gifted producer was director-general of the then recently organized Goldwyn Pictures Corporation.

The cut-and-try worker, urged to explain the abandonment of these devices, probably will say after brief reflection that mechanical delays entailed, and, above all, the item of translation for the foreign market, made them impractical. The fact lies deeper. They were given up because in effect they didn't seem right—the titles didn't "get over" as well as by the established plan of "cutting" them in. And whether those persons in the game divined the reason or not, it was this: the spectator appreciates best when he is able to concentrate; and his mind is so constituted that he concentrates best on one thing at a time. To watch the scene in the courtroom, however familiar it already may have become, to restudy the orientation of characters and their varying facial expressions and at the same time attend their speech presented in this fashion, was a little like dividing one's attention over a three-ring circus.

Now, of course, in the regular theatre one does not literally blot out the scene while he listens to the speech—and yet, if the production is carefully made, that is, in effect, what happens. As in concentrating on a word one is reading on a printed page he is also vaguely conscious of an area of printed text around the focal point, the engrossed audience listens to the player's telling words with a momentary dimming of the unrelated parts of the scene, the dimming being done by themselves. If attention is genuinely concentrated on the speech, the physical scene, to all intents and purposes, is not there save as one wishes to recall it. And what the venerable "cut-in" title does is artificially to assist such concentration by complete elimination of the scene for a brief interval. Thus, the universally used, traditional title was, in one respect at least, firmly rooted in approved psychology.

The stumbling-block here was the lack of uniformity in the audience itself. One person could read and appreciate quicker than another; and if he was not loud in his complaints that the title was held on the screen too long—in other words, that the scene was blotted out too long—the tenuous thread of interest snapped for him and he became restless. In this quandary the producers hit upon a device which was to decorate the title background with something that would divert the eye that too quickly had exhausted the meaning of the lettering. Being specific about it, probably the first decorated titles were made about 1908 by Richard Klaussen, the artist for many years in charge of the title department for the old Vitagraph Company of America at Brooklyn, N. Y. They seem to have been re-invented independently a few years later at the Thomas H. Ince Studios in California, by Irvin V. Willat and Mon W. Randall, the former then a master-cameraman and the other an artist less celebrated then than later for a highly original, vigorous technic. The Vitagraph Company had virtually abandoned the decorated title because there were too many other novelties to engage public attention for films; but early in 1915 the Ince picture, "Peggy," starring Billie Burke and with decorated titles throughout, was submitted to the distributors, Triangle Film Corporation, with a request for approval of the title backgrounds, in particular, that the practice might be continued for all Triangle-Ince releases. Approval readily given, the adornment became regular practice not only for the Ince division but for most of Triangle's competitors. Curiously enough it never was favored by D. W. Griffith, who at that time headed another division of Triangle. But the public liked it; and an even more potent reason for widespread adoption was the fact that it helped so much to "pretty" or "doll up" otherwise mediocre films.

In the half-dozen years following those in which workers in the first celebrated companies accepted and developed such basic advantages as the close-up, fade-back, double exposure, one-to-one shooting and shooting through scenes painted on glass, there was no organization that contributed more to picture technic than that at Culver City, California, dominated by the far-seeing genius of Thomas H. Ince. Hence the eager interest in title development of his chief of camera staff, Irvin Willat, was aided and abetted. Willat carried title decoration to its high-water mark represented by such achievements as one in a play of big city politics, starring William H. Thompson and Charles Ray, showing a living spider actually ensnaring a fly, and, more remarkably still, a tiny frieze with living figures acting out an allegorical prologue back of the opening titles of "A Gamble in Souls," starring William Desmond.

Finding Where Words Belong

These experiments were only incidental to other pioneer work which had to do with matters more fundamental than ingenuity of background. It was discovered, for instance, that titles should not anticipate action, which was precisely what had been learned about spoken words centuries earlier by stage folk. Of late years one has not seen much of the anticipatory title—that is, anticipatory in that sense; but in the first decade or so of the present century, it was one of the commonest technical sins. A title would read something like this—"Next day John Smith took his wife out driving;" and the succeeding picture-sequence would forthwith show John Smith doing precisely that thing, with the inevitable boring effect on the audience of having done it twice. The title should not "give the snap away"—should not, by telling too much, "take the edge off the story."

Then it was found, too, that the decorated title background slowed the tempo by inviting, without concentrating, further attention. The outcome here was that the best practice eschewed decorated backgrounds in all titles that belonged expressly to the pictorial action—"cut-in" titles, as they say —using them only for "editorial" titles leading up to action, or for those covering lapses between sequences or chapters of action. This explains the distinction drawn in the usual shooting script, of the silent picture days, between "titles" and "spoken titles." The former only were to be decorated.

Nor was this all. The title writer began to learn that the words were very definitely related to the pictorial action, and that writing one was by no means like composing a sentence for a printed page. In Erich von Stroheim's interesting and in many respects notable picture "Foolish Wives," there was a "lapse-of-time" title something like this: "Night . . . music . . . women's voices . . . surf . . . fragrance . . . fireflies." No subject and predicate, no questions of syntax, no harrassing infinitives or metaphors—just those items of the "milieu" necessarily omitted by the silent picture and here supplied.

To the casual eye the title in its more advanced forms seemed more remarkable for what it left out than for what it said. Compression seemed the rule. One writer, Roy Summerville, on the scenario staff of old Triangle-Fine Arts, boasted occasionally that he was the first to use the three dots of elision to suggest the continuance of conversation not actually given on the screen; and there were other forms of editing words that forcibly reminded one of Henry Holt's famous advice to authors to practice their art by writing telegrams. There were also efforts to avoid the distractions of punctuation marks; and if Roy Summerville should go down to fame for three asterisks, the present writer may claim the innovation of "no periods at ends of titles." In William De Mille's production of "The Fast Set," made from Frederick Lonsdale's stage play "Spring Cleaning," even the usual quotation marks were cut from spoken titles. The reason back of all this is the same that applies to newspaper headlines where punctuation also is frowned upon. Nothing there is permitted to interfere with reading the full meaning at the first glance. And in spoken titles the word uttered "trippingly upon the tongue" is of high importance.

The title differs from the printed sentence in this other particular—there can be no turning back to read it again. It comes but once in the ideal telling of the story, and then in the most effective succession of bids for attention in which acting and scenery also figure. The title is now seen as essentially confirmatory of the pictorial action—a supplement to things literally seen. By and large this endorses and carries on a long-standing practice of the stage where speech interprets the gesture, gesture there being commonly made first. This order of precedence, that the gesture is before the speech, is psychologically based on two points—one that the eye is quicker than the ear, and that the spoken word, being oftenest a symbol of something other than mere sound, requires more interpretation.

But with the coming of talkies it is observable that this is no final statement of the case. Words are generally secondary to the pictorial action; yet there are times when the words are quicker in point of time. Certainly it is more economical (to revert to a celebrated anecdote of Barrie and Granville-Barker), to say in words that one has "a red-headed brother who drinks port in Shropshire" than to try to show it altogether in pictures. There indubitably is a time when the spoken word, despite its familiar character as a symbol of something else, comes to the forefront as the most effective of the available means to the given end; and it is a very short-sighted director or continuity writer who does not seize upon it at that moment as a thoroughly legitimate means of artistic expression.

Perfection of the motion picture title has brought about an economy of words. This telegraphic character, however, is little more than has been attained by stage dialog, in which every phase is fraught with meaning to just that extent that it may be comfortably absorbed by the audience—not to do less with words but to do better. The tendency has been not to dispense with words, but to boil them down to elemental strength, just as the poet prunes and polishes his verse without meaning in the slightest degree that he is thereby relinquishing his verbal medium.

Sounds Beyond Words

Turning from the symbolism of speech, one sees that there is a power of pure sound, proverbial and known first-hand to

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Top, the three Moore brothers in "Stout Hearts and Willing Hands." Center, the Keystone Cops doing a "come-back." Bottom, Laura LaPlante, Mary Carr and Alec Francis in one of those heart-rending scenes.

The Keystone Cops Return

Masquers Bring Them Back in "Meller Mellerdrama"

by **JOHN W. BOYLE, A. S. C.**

IT IS NOT often, I'm sorry to say, that a cinematographer laughs so much on a set that he has difficulty in doing his work. The ordinary run of comedies thus far has not reached that point of perfection. As a matter of fact, comedies, generally speaking, are very serious things.

But, I have just finished photographing one that would make even the ex-King of Spain laugh if he saw it while on his way out of the country with a troop of Republican anti-Monarchists at his heels. And, did it bring back old memories of those golden days that have gone—those days of the distant past when sound tracks and super-speed film were not even thought of! I'll say it did!

When I walked onto the set the first day I could hardly believe my eyes. There I saw Ford Sterling, Chester Conklin, Mack Swain, Jimmy Finlayson, Hank Mann and Clyde Cook—the Keystone Cops—all in their old-time uniforms, trick mustaches and everything. It was like a flashback to the days when comedy was not comedy unless there was a flock of pies straying through the air in the general direction of someone's head; the days when the seat of a comedian's pants was intended for just one thing—a spot on which to plant the toe of a boot.

And, would you believe it, the name of the picture is "Stout Hearts and Willing Hands"; a picture that is a comedy, but is packed with the old "mellerdramer" as you never saw before. This picture is one of a series which the Masquers, Hollywood's "Lamb's Club", is making with which to raise funds to build a new club house. It is typical of the members of this wonderful organization to go out and work for the funds rather than to try to raise them by other methods. All talent in the series is volunteer. The first story was written by Al Austin and Walter Weems, and was directed by Bryan Foy. Two outside "willing hearts," Laura LaPlante and Mary Carr, add their bit to the members of the club in making the cast complete—and there are more stars in the cast than there are in the heavens.

Working with this group was a real joy. First the story was so funny. Then, the "asides" of the actors, in true old-fashioned style, were uproariously funny. At times, too funny for those of us who were trying to put it on the film.

I don't know which struck me the more forcibly, the all-around sportsmanship of Director Foy, or the general esprit-de-corps. Judging from my experience, working for the Masquers, in the mind of a member, is like giving your all on a football team for old Harvard. Not a grumble although there were hours of waiting. Not a yip of disapproval if someone had funnier lines than the other. Not an expression of anything like jealousy if someone got more footage than the other. I'm telling you it was a joy to work with such a crowd. I can't understand how they went through their act without breaking down. There were Alec Francis and Mary Carr, the old folks with the mortgage, and Laura LaPlante, the "little Nell." Lew Cody, the villain holding the mortgage. Frank Fay as the "True-Blue Harold," an open-chested hero, if ever there was one.

Of course, there was the saloon with the three Moore boys as the bartenders. And if you don't know them, they put their names on their chests. You'll die when you see the hero ask for a glass of buttermilk to calm his nerves for a big play on the roulette table. And then, there is the sawmill where the circular saw threatens death to the hero, and of course, all ends happy with the villain out of the way.

But the kick to me was the return of the famous Keystone Cops, who jump to the alarm in the same fashion they did years ago in the old-time pictures. And how they jump! Even the Admiral of the United States Navy is called in—and he has an English accent. That's enough. You'll know why we laughed when you see it.

A remarkable group are the members of this Masquers club. They are an outstanding example of what cooperation will do in the picture industry. They need a new clubhouse. Times are hard. But they take advantage of these slow times when many of them are not working and put in their spare time in doing something that will bring them the house they want. That's using the head for more than a hat-rack. And—the way they plunged into the work a real joy to watch. A nice crowd to photograph, too, for none was trying to have better lighting or nicer closeups than the other. There was no star who frowned upon a bit player who seemed to be getting a bigger "break" than usual. All you had to do was make the best picture you could, and never think about the feelings of any player. You can shoot pictures when all you have to think of is the picture. But that's the way of the Masquers. Cooperation seems to be their watchword.

Mr. Boyle at the camera during the shooting of Masquers' picture. Franklin Pangborn is the "lady" in the foreground.

Hal Hall SAYS

Thoughts In Passing

WONDER just what it's all about . . . Passed a street corner this morning and bought an apple from a poor, old woman whose gratitude at my nickel purchase fairly radiated from her wrinkled face . . . Came to the office and read where a movie star was kicking because her salary for the next three years would total but a measly one million dollars . . . Shucks . . . there must be something wrong . . . Friend of mine . . . nice, clean, industrious chap with wife and three babies came to me the other week to borrow ten dollars so he could get some groceries . . . The next Sunday I was in Caliente and watched a man lose six hundred dollars in five minutes in a crap game . . . that would buy a lot of groceries . . . Doesn't seem to be much happiness for anybody, anyhow . . . the poor are unhappy because they need so much . . . the rich are unhappy because they have so much to worry about . . . This writer can't figure out where he stands . . . but, sometimes we wish we were back on that old, rocky farm in Pennsylvania where we used to have a good time on Sunday just sitting and whittling on a piece of soft pine . . . Too much rushing about, going like the Devil and getting nowhere . . . matter of fact, most of us couldn't tell you where we're aiming, anyway . . .

Vision

THIS may be a far cry from the technical end of the motion picture business . . . but, did you ever stop to think what a big spot the dreamers play in this world. So often you hear someone say, "He's just a dreamer." They make a mistake, for a large part of the time the person they refer to is a man with God-given "vision." He is a man with an idea; a man with faith in that idea. And, those are the men who have made possible most of the great things of this world. Edison, Bell, Columbus, Fulton—they dreamed. They had faith. They gave the world something. Same in this picture industry. The men who in the beginning had the vision to see a future in the motion picture, and stuck to their dream, landed on top. If it had not been for them we would not have the picture of today.

Congratulations

MUCH credit must be given Joseph Walker, A. S. C., and Elmer Dyer, A. S. C., for the splendid cinematography in Columbia's picture "Dirigible." Mr. Walker was Chief Cinematographer and Mr. Dyer was the aerial cinematography specialist. The two gentlemen surely did an excellent piece of work, and again prove that the cinematographers of this industry are artists.

Tanar Catalogue

ONE of the most attractive catalogues that has come to our attention for some time is that of the Tanar Corporation, Hollywood manufacturers of portable recording equipment. This catalogue, consisting of 24 pages, is profusely illustrated and is gotten up in an unusually attractive color combination of red, green, black and buff, and is another indication of the progressiveness of this organization which in a year has made most unusual strides.

Musicals

JESSE LASKY says that Musicals are coming back. Thanks, Mr. Lasky. We always have liked musical comedy—when well done—and we hope your prediction is correct, for a good musical on the screen is a welcome relief from so many crook pictures. We hope that the various producers will use a little judgment when they do return, and not give us so many of them that we will be overstuffed. The trouble is that as soon as one company makes a picture that clicks, no matter what the type, all the others join the gold-rush and turn out similar pictures. But in their mad scramble to get in on what they think is the popular fancy, they neglect to give us good stories. That is the chief reason why the musicals went out as they did a while back. Too many of them—and too many bad ones. Wouldn't it be a marvelous thing if some company should make a successful picture and no other company would try to make one like it!

President Arnold

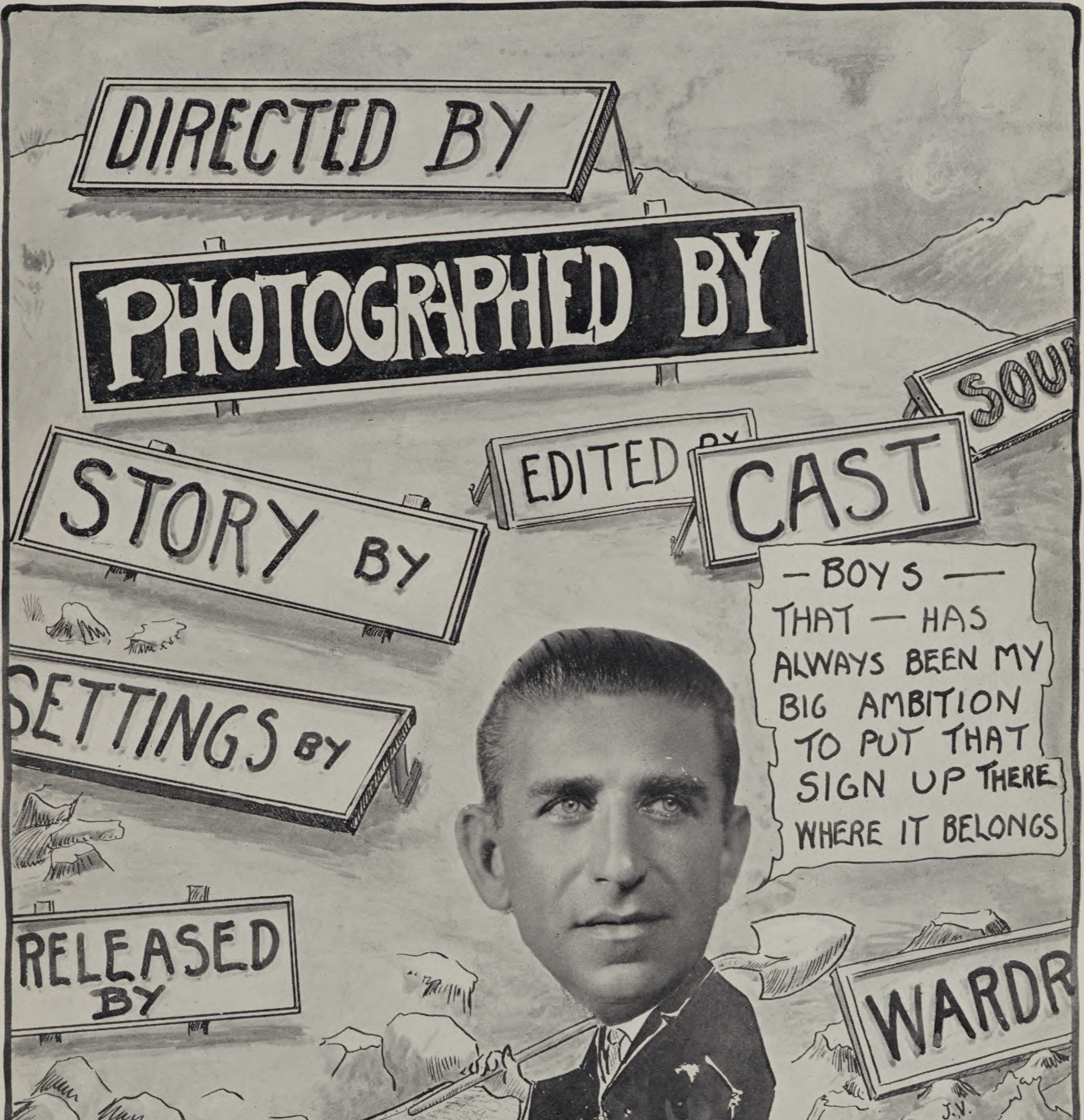
THE AMERICAN Society of Cinematographers is to be heartily congratulated upon the organization's selection of John Arnold as President. Mr. Arnold is a man of few words; but he is very strong on work and results. The fact that he has been with the Metro-Goldwyn-Mayer company for so many years is mute evidence of that fact, for picture companies are not prone to keep men in their employ for eighteen years.

Mr. Kershner's drawing on the opposite page is a splendid one, for it really portrays the real John Arnold—a man who works, and will continue to work for the benefit of the A. S. C. and every cameraman in the picture industry. Mr. Arnold believes the cameraman should be given greater recognition. He will work toward that end—and we predict that he will succeed.

This Month's Cover

THOSE of you who want to see a native daughter of California will kindly turn to the cover of this issue. There you will see Dorothy Revier, born in San Francisco. One of the few Californians to become a brilliant figure in the State's most famous industry—motion pictures.

Dorothy started out to be a dancer. In fact, she became a very excellent dancer. And then, seven years ago, someone saw her and figured she was screen material. They figured right. After a year of free-lance work, Dorothy was signed by Columbia. She stayed with them for six years. She and Columbia sort of grew up together in the picture industry, for her fame rose along with the fame of that picture organization which now takes no back seat for any company when it comes to turning out pictures that are entertaining and worthwhile. Dorothy has left Columbia now. She is again a free-lance. She just completed work in "The Black Camel" for Fox, and present indications point to a very rosy future for this native daughter of California.



President Arnold of the A. S. C. aims for Recognition for Cameramen

Laboratory Department

Conducted by **EMERY HUSE, A. S. C.**

Preservation of Motion Picture Film

FOR years before the nitro-cellulose base was generally adopted for the support on which photographic emulsions were coated, study was made of the preservation of negatives of which the emulsion was coated on glass. This early study of photographic images on glass proved that a silver image in gelatine would keep almost indefinitely, provided certain conditions in the manipulation were complied with.

The making of photographic images with an emulsion coated on nitro-cellulose base is more recent than the glass and paper processes and, as a consequence, there are not many records of long standing which may be considered as having established a comparison between the stability of film and glass photographic images.

Motion picture negative film having a nitro-cellulose base was first made in 1889 and as the emulsion was not then, nor for a considerable time afterward, as sensitive as the present emulsion, it was also used for printing positives until about 1895, when positive film was first manufactured commercially, though it was not until some years later that the use of either negative or positive film began to be of consequence.

However, during this period there had been an increasing demand for negative film in roll form for the making of snap shot negatives and as this film was basically the same as motion picture negative film and received the same general manipulation, we are able to form an opinion as to the comparative keeping qualities of film and glass negatives, except for such differences as might be affected by the customary method of storing glass plates and cut film negatives in special paper enclosures, whereas motion picture film has always been wound into a tight roll from which air is excluded.

As a result of the experience gained from the storage of negatives cut from rolls of film as used in the Kodak, which had been thoroughly fixed and washed, it is known that preservation over long periods of time is possible.

The constituent parts of motion picture film are a cellulose nitrate base and a gelatine coating which contains the silver image. The cellulose nitrate base consists chiefly of nitro-cotton and this substance, while apparently stable, is subject to a very slow change with time, while the gelatine containing the emulsion, if properly fixed, washed and dried, is absolutely permanent.

The change or deterioration in the nitro-cellulose base will be negligible if it is stored at a consistently low temperature, but more gradual if subjected to a high temperature, which causes the release of volatile substances which affects the physical properties of the base and is liable in time to attack the emulsion and gradually destroy the silver image.

On the other hand, insufficient fixing and failure to wash the film thoroughly to remove all traces of hypo will greatly accelerate this change and may result in a yellow discoloration of the gelatine coating. Furthermore, insufficient care in the processing manipulations combined with poor storage conditions of the finally processed film likewise causes trouble from the standpoint of film shrinkage.

When motion picture film is prepared for storage it should be wound on wooden cores, wrapped in chemically pure paper and placed in a sealed container, preferably of fibre or hard rubber, which in turn should be enclosed in a metal box, but no metal should be permitted to come in direct contact with the film during the storage period.

In view of the effect of temperature on film base, the container should be stored in a cool but not too dry atmosphere, or such as would ordinarily prevail in a well constructed and properly ventilated film vault. Ideal conditions might be compared to the temperature ordinarily prevailing in a household refrigerator. Under such conditions there would be little to fear either from a change in the physical properties of the base or the gelatine coating or from the possibility of shrinkage to a degree which would affect the perforation pitch and cause difficulty in printing future positives.

The use of negatives for making reprints at intermittent periods has a beneficial effect as far as the stability goes, as this permits the escape of any small trace of gases which may have accumulated but under all circumstances, especially with negatives which are inactive for long periods, there should be careful examination by re-winding at least once a year, so that any change may be detected and the film copied, because once deterioration has started it is difficult to check it.

●

Waxing Prints

SOME film processing concerns so treat the prints that there is absolutely no trouble with film sticking or collecting on the tension shoes during the first couple of runs. But some prints seem to be coated with a substance that causes trouble for the projectionist.

The result is that tension shoes, sprockets and even the sound slit is filled with what seems to be a brown floor wax. During the first two or three runnings, especially with high intensity lamps this substance melts off and collects on the first cool surface it comes in contact with.

The result, one side of the intermittent sprocket piles up with wax until the tooth will hardly enter the sprocket hole and a wobbly picture on the screen is the result.

The application of this stuff is seldom equally applied and as a rule only one side of the sprocket is affected. After the sprocket has all it will hold the rest passes down to the take up sprocket and it fills up in turn, following which the slit in the sound gate gets a share with fatal results to the volume and quality of the sound.

The use of ordinary waxes of this kind for this purpose constitutes a fire hazard for, if the intermittent tooth fails to engage because of this clogging, the film is liable to stop in front of the aperture. Then fireworks with the amperage we carry today.

Get yourself a good stiff toothbrush and keep it on the starting box where it is easy to grab when you see the sprocket turn dark between the teeth. It will save you trouble.

Max B. Du Pont, A. S. C.

CINEMATOGRAPHER

on "SINGLE SIN" **HE. 1746**

Portable Sound Equipment

(Continued from Page 12)

recorder, case No. 5 contains the amplifier, 3 audio lights, head phones, audio light cable, volume setting cable, extra tubes, case No. 6 contains the amplifier batteries, case No. 7 contains all the accessories that go to make a practical portable equipment. By practical equipment I mean instead of the usual 25 feet of very light cable, we give with the Audio-Camex system 200 feet of five wire shielded cable. This cable alone weighs about 60 pounds, but when you are away from Hollywood it is very hard to get extra cable. With this outfit we also use cannon connectors throughout. These connectors are the same standard connectors as used by the studios of Hollywood, and cause no trouble whatsoever and do not get out of working order. Our battery cases may be a little heavier than usual because we use a heavy duty battery believing that the best is none too good and the weight from the heavy duty battery more than pays for itself in the life and service given by a battery of this type.

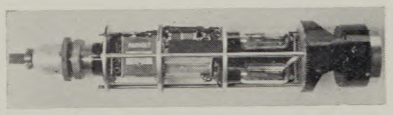
The Audio Recording Light

When the idea of the portable double system was first thought of there was one obstacle in the way, and that was a method and means of synchronizing the motion picture camera with the sound recording head. The Audio-Camex engineers after much work and the aid of one of the largest motor manufacturers in the world completed a pair of direct current motors operating on B batteries interlocked and synchronized with each other. These motors were first announced in this magazine last October and were the first ones that were ever put on the market for any sound system. These motors run both as direct current motors but each makes its own alternating current on one end of the motor. And when the interlocking switch is thrown on, the alternating current running from both motors must stay in step or the motors will buck and not perform at all. The amplifier is so constructed that it will work in any climate or humidity and perform satisfactorily at all times. The main amplifier is impregnated in a catacomb filled with wax. It is a four stage direct coupled amplifier. It has a plate current meter and volume indicator. The plate current in each tube can be measured and one can tell if each tube is properly functioning. It has a two position mixer and will handle two microphones or it will also handle one microphone and a phonograph pickup, mixing phonograph record music with voice. The cable connections are all on the panel making it rigid and when the cover is on the case there are no protruding connections whatsoever. It will be noticed all the connectors are of a different type, the microphone connections having five point connectors, the battery cable connectors being a six point, the audio light connector being a four point. It is, therefore, impossible to connect up the outfit the wrong way.

Amplifier Case

The bottom drawer of the amplifier case has a place for three audio lights, four extra tubes, a pair of head phones, audio light cable and volume indicator setting cable.

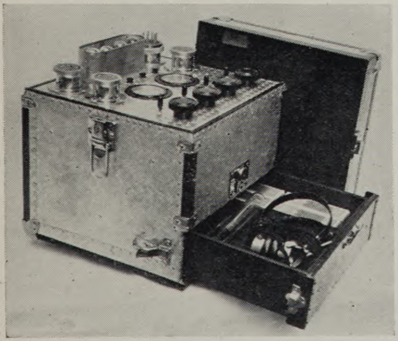
The audio light has a three prong base and will fit any standard radio c-x socket. This light is about one and one-eighth inches in diameter and about six inches long. It has a life from thirty thousand to a hundred thousand feet of film. One of the tubes being used here in Hollywood has already been used for one hundred and fifty thousand feet of film and is still in use. The life of a tube generally depends upon the amplifier and the matched impedence.



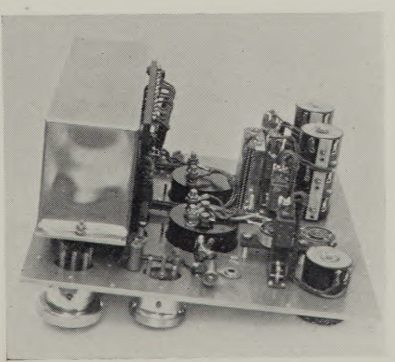
Bullet Type Microphone with cover removed

The recording head is specially built and designed for sound recording. Its construction is strong and sturdy and will stand considerable abuse without getting out of adjustment. It only consists of as few gears as possible to make it operate. The sprocket wheel is made to run absolutely accurate so there will be no flutter in the recording of sound at any time. In fact all good sound depends upon good motion in the sound camera. Our recording slit sits right close to the film and is a very unique construction and is made in such a way that the slit will not fill up with dust or dirt and at all times will record good track without having the modulation cut down by dirt and scratches.

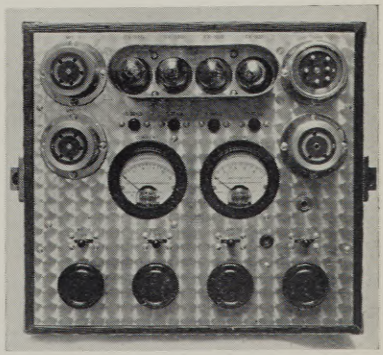
(Continued on Page 42)



Amplifier Unit



Interior of Amplifier



Amplifier Panel

John Arnold New President

(Continued from Page 9)

Among the other speakers were Past Presidents Dan Clark, John F. Seitz, John W. Boyle, Fred Jackman and James Van Trees. All spoke briefly concerning the aims and accomplishments of the society, and Mr. Jackman had the house in uproarious laughter by his reminiscences.

President Arnold was born in New York City, and it was there that he started his career as a cinematographer. It was back in 1908 that he "broke in" with the old Thomas Edison Company at Orange, New Jersey. From there he went to the American Mutoscope Company—lots of you may have forgotten those days—From Mutoscope he went with Rex Film Company. Then to International Film Company, Yankee Film Company, Atlas, World Film Company, Rayno, Columbia Photoplays and then to the famous old Biograph.

After a considerable stay with Biograph, Arnold entered the employ of the Rolph Photoplays. This was the organization controlled by B. H. Rolph who has long been out of pictures and whose famous orchestra is heard over the radio on the Lucky Strike Hour.

Then, in 1913, Mr. Arnold joined the Metro Pictures Corporation. It was not so large in those days, but through the years that concern by various mergers and reorganizations finally grew into the great Metro-Goldwyn-Mayer company which is one of the greatest of today. And through all the changes that took place during those eighteen years, John Arnold remained with the company as one of the outstanding cameramen of the industry. Executives came and went. New presidents passed in and out, but Arnold remained. Now he is head of the organization's camera department, and for some time has not been behind a camera. He holds a unique record with Metro-Goldwyn-Mayer because of the fact that, as far as can be learned, he is the only man in the production end of the company who was with it at the start eighteen years ago and still remains.

Mr. Arnold should prove to be an ideal leader for the society. He is a man who has little to say, believing that actions always speak more eloquently than words. He is a calm, cool thinker; a man with vision, but one who believes in being practical. In other words, he is the rare combination of a dreamer and a hard-headed man of action. Under his leadership the society should enjoy a year of great success.

Mr. Milner, First Vice-president, is one of the industry's most outstanding cinematographers, and no more able man could have been chosen for this office. For years he has photographed some of the greatest pictures that Paramount has presented. The strength of any organization lies in its reserves; and in Mr. Milner the society has a man admirably fitted to take over the leadership if it should become necessary.

Mr. Boyle, Second Vice-president, is another admirable officer. He served one term as President, and brings to the society the experience so gained. To the writer, the society uses excellent judgment in placing former Presidents in office. Incidentally, it shows the real bigness of a man who has once been President if he accepts another office in later years. Mr. Boyle is another man whose cinematographic ability needs no introduction. For years he has been one of Hollywood's best.

In selecting Mr. Gilks as Third Vice-president the society again has shown fine judgment, for he is not only one of the best cinematographers in the industry, but is a man of keen business sense and a man who has the quality of leadership so necessary.

Mr. Stull did such an excellent job of handling the office of Secretary last year that he was, quite naturally, unanimously chosen to serve again. A tireless worker and a stickler for detail, Mr. Stull stands out as one of the finest Secretaries the society has ever had.

Mr. Schneiderman is not a stranger in the position of Treasurer, for he held the same office some years ago, and was such an able man that his selection this year when Mr. Arnold left the treasureship to become President was a foregone conclusion. Incidentally, Mr. Schneiderman is another of the industry's great cinematographers, for years being one of the biggest men in his field with the Fox organization.

With such a group of officers, the society has nothing to fear for the future.

The annual report of the society, presented at the close of the past year, revealed the fact that the society is in the healthiest condition of its history. Despite the period of depression, the magazine has forged ahead and the Cinematographic Annual successfully weathered the storm of its first appearance, and gives promise of being still greater in its second volume, publication date of which has not yet been announced.

The following committees have been appointed for the coming year:

Public Relations—John Arnold, chairman, Joseph Dubray, Georges Benoit, H. T. Cowling, Claude McDonnell, Harold Sintzenich, E. L. Dyer, Ariel Varzes, Frank Zucker, Claude C. Carter, Charles Bell.

Research and Education—John F. Seitz, Joseph Dubray, Emery Huse.

Membership—Fred Jackman and Daniel B. Clark.

Production—Daniel B. Clark.

Social and Entertainment—Hal Mohr, Frank Good and Gilbert Warrenton.

Program and Exhibition—Ray June, Elmer Dyer and Hatto Tappenbeck.

Board of Editors—Gilbert Warrenton, Wm. Stull, Joseph Dubray, H. T. Cowling, Ned Van Buren, George Schneiderman and Hatto Tappenbeck.

●

Cameramen Want Silence

SIXTY FIRST cameramen, representing all Hollywood studios replied to the questionnaire on camera silencing sent out in March. 91 percent of the replies advocate strong efforts toward the development of cameras which would not require blimps or covers of any sort. 52 percent of these replies urged such efforts in strong terms.

The weight of the blimps in use was condemned by 90 percent of the replies; the bulk by 87 percent. 55 percent said the blimps made focusing difficult and 73 percent said they crowded the sets uncomfortably on close-ups. Practically every type of camera cover in use in Hollywood was criticized for one or more of these reasons.

At the meeting of the Producers-Technicians Committee April 16th, it was resolved to bring this situation to the attention of the camera manufacturers and inquire what efforts are being made toward the production of a silent camera. The Committee will offer to have studio experts confer with the manufacturers in an endeavor to advance such efforts.

The Committee expressed its appreciation of the cooperation of the American Society of Cinematographers, and of the International Photographers of the Motion Picture Industries (Local 659 of the I. A. T. S. E. and M. P. M. O.).

The questionnaire also inquired the effects of directional microphone devices (concentrators, ribbon microphones, etc.), and also of "noiseless recording" systems. The replies, however, revealed that too few cameramen have worked with any of these devices to permit generalization as to their effects. Several leading cameramen expressed the opinion that the development of adequate concentrators would reduce the importance of silencing the camera. On the other hand, the recording systems which eliminate ground noise make incidental noises, as from cameras, more noticeable.

A REMARKABLE NEGATIVE FILM

NOW you can have from two to three times the speed of ordinary negative, especially under Mazda lights . . . greater exposure and developing latitude . . . unexcelled color balance . . . every other quality essential to the finest sound pictures, including typical Eastman uniformity . . . at no increase in cost. Every test, in the laboratory, in the studio, on the lot, confirms the belief that Eastman *Super-Sensitive* Panchromatic Negative, *Type 2,* is the most remarkable negative emulsion ever offered the camera man. Eastman Kodak Company, Rochester, New York. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

EASTMAN *SUPER-SENSITIVE*

Panchromatic Negative, *Type 2*

INTRODUCING
A NEW LAMP
. . . AND ITS SIGNIFICANCE TO YOU

NOW another General Electric product—the Photoflash lamp—eliminates the smell, smoke and noise of flashlight powder. Already it is in wide use among press, commercial and professional photographers generally.

The lamp itself is simple enough, both in construction and operation. Thin aluminum foil in crumpled sheet form, pure oxygen and a specially coated filament are the contents of the clear glass bulb, which has the usual medium screw base. When the current—which may be that supplied by A.C. or D.C. circuit or by dry-cell or storage battery—is applied, a brilliant flash of white light which lasts only 1/50 second occurs.

The lamp is used with suitable reflector equipment for best results. One lamp amply illuminates small areas with few subjects, while several lamps can be flashed simultaneously for larger groups.

The General Electric Photoflash MAZDA lamp is assured a definite place in the cinema industry. The creation of artificial silent lightning is one of many uses that suggest themselves at once.

In still photography, Photoflash will be used extensively in publicity shots in the homes of film stars, where its cleanliness, convenience and efficiency will be welcome. Wherever flashlight shots are desired — in public places, on boats, trains, in hotels—the G. E. Photoflash MAZDA lamp will make them their best.

GENERAL ELECTRIC

PHOTOFLASH MAZDA LAMP

Join us in the General Electric radio program broadcast every Saturday evening over a nation-wide N. B. C. network.

Announcement Extraordinary No. 2

The Moreno-Snyder Continuous Camera Is a Fact

In the American Cinematographer for November, 1930, we announced that the camera (and projector) was in process of manufacture and that it would soon be ready. Delays were caused by the addition of important new devices invented by Mr. Moreno.

Well, here it is—the camera that wise ones said could not be successfully fabricated—and by test it looms as the ideal precision instrument in its field.

It is offered to the trade on its merits and here are some of them:

CONTINUOUS. The film passes through the camera at continuously uniform speed with no intermittent motion on either the film or any moving part of the camera.

NOISELESS. This fundamental kinematic characteristic permits of a design which is noiseless in operation.

EXPOSURE TIME. At the now standard intermittent film speed of 90 feet per minute the exposure time per picture frame is 1/48 seconds. With the M. S. Camera, and at a continuous film speed of 90 feet per minute, the exposure time per picture frame is about twice as long or 1/24 seconds. Result: Standard exposure with M. S. camera is obtained by about 50% of now necessary standard illumination or of working lens aperture, thereby increasing photographic values of picture.

SLOW MOTION. This camera is without any necessary change of adjustment a silent "slow motion" camera up to a film speed of about 300 frames per second or 1125 feet per minute.

SOUND RECORDING. On account of the continuously uniform progress of the film synchronized sound recording can be effected at the corresponding picture frames and not a predetermined distance therefrom—another decided advantage over present standard practices for sound on film methods.

COLOR PHOTOGRAPHY. The increased exposure time for standard film speed offers great advantages for any system of color photography.

DEPTH OF FOCUS. Another desirable characteristic of the M. S. Camera is the fact that a greater depth of focus is obtained for any definite setting of any standard lens.

FOCUSING DEVICE. The change of camera from focusing (finder) position to exposure position does not move any heavy part of the camera; but is effected by the jarless and practically resistless moving of a small lever for about ¼". The photographic lens and the film are untouched, therefore, no movement of any kind is required.

MAGAZINES. Delivery and windup film magazines are separate from each other, permitting about 50% reduction in weight and bulk of handling of camera film supply.

CONVENIENCE. The M. S. Camera is lighter than most professional cameras, is easy to set up and its silence makes it a boon to the news men.

EXPOSOMETER. The handiest device ever installed on a camera; at a glance the cameraman is able to determine the correct intensity of light and exposure. This means standardization of negative density—enables the operator at will to absolutely duplicate any predetermined lighting condition.

TRICK WORK. For trick work alone the M. S. Camera is worth more than its cost. Its steadiness is amazing and its continuous movement enables it to do wonderful things.

Our next announcement will concern itself with color photography and projectors. Our illustrated folder will, within the next two weeks, be sent to all inquirers.

MORENO-SNYDER CINE CORPORATION, Ltd.

6250 Santa Monica Blvd. and 1072 Vine St., Hollywood, California
Phones - Office GR-0306 - Shops GR-5277

Gabriel Garcia Moreno, Chief Engineer
William G. Fairbank, President
Silas Edgar Snyder, Vice-President, in charge of Sales Promotion

Sound and Speech

(Continued from Page 15)

all music-lovers. There is the force of rhythm, used so effectively in the incessant beating of tom-toms off-stage in Austin Strong's celebrated play, "The Drums of Oude," or even more closely knit into the plot of an early sound picture, "The Dangerous Woman," with Milton Sills and Baclanova, where the savage ceremonies of an African tribe stir the sensuous nature of a white woman till she becomes a vampire. But even music tries mostly to express more than sound. One composition is "The Awakening of Spring." Another is "The March of the Wooden Soldiers." Still another is "The Moonlight Sonata." Virtually all are interpretative of things other than what "delights the ear" alone.

And yet even pure sound is not altogether new to the makers of titles. For many years they have been underscoring words for emphasis, or having the words appear successively upon the screen in imitation of staccato utterance, or having speeches run in criss-cross to approximate the chatter of gossips, or having significant words like "War" and "Murder" and "Help!" grow from nothing till they fill the field, or having the cry "Police!" or "Fire!" in quivering letters, or having dialects suggested with occasional misspellings. Borrowings from the fine practice of typography have long given biblical utterances in the ecclesiastical black letter or "Old English," and growing discernment has uncovered the force that lies in delicate faces of type for plays of fragile sentiment, and more vigorous forms for virile stories. There has come about, it must be added, an all-around but peculiar style of lettering for titles that the type-founders have done the reciprocal compliment of casting in fonts. It is a generally round, open-faced letter, with heavy ceriphs, easy to produce and to read and not seriously modified by varying laboratory developments of the film upon which it is used.

Quite naturally it will be some time before the industry as a whole realizes the true affinity of motion picture titles and uttered speech—naturally because in any radical departure, in art as in politics, the first overwhelming tendency is to throw out everything old—pack and baggage. Nevertheless, and this should be clear by now, there are valuable benefits from the old to be cherished and enjoyed. So, before dispensing utterly with the long-serving title, its various forms should be scrutinized, each in complete detachment from the others, to see precisely what it has to give.

The Playwright Speaks

One common form of title, long accepted on the screen, will seem quite unadaptable, and that is the editorial title in which the maker of the picture makes observations in his own person, without the intervening medium of any character. This title may say no more than "Dawn" or "Night" or "Home;" but it clearly is the injected comment of an outsider who is assumed, by the author's own terms, to be absent.

Here, once again, it is easy for the purist in art to be over-nice in his discrimination. The editorial title has too many valuable uses to be abandoned just because the body of the picture is literally spoken. The opportunity to whisper, in a manner of speaking, into the spectator's ear, supplying him with just the right expression with which to describe and remember his moment of ecstasy, is rich in possibilities and no more illegitimate than the strains of music out of nowhere that are injected occasionally to build up the emotion of the scene. But there is a more virile function of the editorial title; and that is its service between chapters or sequences of action, bridging intervals of time or saving the periods of rest between intense emotional experiences from being gaps so great that the flow of interest falls through.

From time to time in the regular theatre the printed program has essayed this same last-named service, summarizing the preceding act and speculating, with rich promises of future pleasures, on the action to come; so there is an analogy. But the stage could never hope, in circumstances where the program is only occasionally read and then usually at inappropriate times, to attain the development of this device reached by the screen where everyone who attends the play must also, perforce, attend the title.

Another proof is here of the truth that the possibilities of an art are realized best in the direction of its handicaps, and that its greatest weaknesses lie in what it finds easiest to do. When the printed program was first added to the facilities of the theatre, theatre folk frequently put into it important links in the plot not otherwise obtainable. In course of time, however, misuses were curbed; and today the theatre program is a mere list of players (found with difficulty in a farrago of advertising). For the fact is seen that, with a little ingenuity and patience, what the program gives so easily may be better given in the play itself. The time and place, the character names and identities and much more, are now "put across" by the action itself as it moves along.

In this respect the talking pictures are following the stage example. They are tending to dispense utterly with printed descriptive matter once the play has started. The "iris out" and "iris in" shut off one scene and disclose another just the same, to all intents and purposes, as the stage curtain; and the characters in the second scene serve to tell how long the interval has been since the first and to what new place the audience has been transported. But however much better this practice may seem, the picture folk should not debar themselves wholly from advantages of the printed word. There indubitably are cases wherein a simple printed statement of the fact is far preferable to a strained expression of it by characters who would not reasonably do it, and the time for doing which throws the whole composition out of balance.

Of course it all depends on the circumstances. The artist's good taste and fine discrimination must prevail. The great objection to the editorial title is that it is the utterance of a person outside the story and therefore tends to break the spell of the play. Well, if the artist is an artist, he will know when he may resort to this expedient and when he should not. He will know that even in moments of great dramatic stress it is sometimes not only possible but tremendously effective to put the reaction of the audience into words, or to help them to feel the reaction by articulating it for them. He will have less compunction about using the editorial title between "iris in" and "iris out" because at that time, as in the stage intermission, the spell of complete absorption has already been broken, the audience is once more aware that it is in a theatre and grateful for the opportunity to recapitulate and reflect, and the editorial title may greatly assist their state of mind. Indeed, when intermissions between chapters, sequences, or acts are as brief as they are in screen practice, a predigested opinion of the case that has gone before, with the prospect of what is to come, may easily be essential to spectators who have had insufficient time in which to work out matters for themselves.

It was found long ago that even films must have intermissions. The stage intermission, popularly supposed to be due to the necessity of changing scenes, is really for rest and thought; and when so-called "super-features" began playing for the then supposedly unattainable two-dollar price on Broadway and appeared in about eighteen or twenty reels each to give money's worth, it was found necessary to full appreciation to break performance in the middle and give the patrons a quarter-hour or so to move around.

As said before, the important working habit of mind is to appreciate verbal and printed speech for what they really are, without prejudice, and to employ them freely where they serve best. Out of this attitude will come the new art of talking pictures.

[This article, written by Mr. Krows of the Electrical Research Products, Inc., is printed here through the courtesy of the S. M. P. E. Journal and Henry Holt & Co., publishers of "The Talkies," of which this is a chapter.—Editor's Note].

..In the Realm of Sound..

Noiseless Test Film Developed By Erpi

by **T. L. DOWEY**

Engineering Department, Electrical Research Products

ELECTRICAL Research Products has always considered it a matter of prime importance that its installations should be so maintained that any noise accompanying sound reproduction was kept at a minimum, and certainly below the level at which such interference would become noticeable. With the introduction of Western Electric New Process Noiseless Recording, this requirement became more important than ever, as the benefit of the new recording is, of course, lost unless there is practically complete absence of noise from the theatre sound system.

In order to make a dependable operating test on a sound reproducing equipment, it is necessary to have available, for Service Engineers and Inspectors, sound recordings which are known to be good and which are sufficiently varied in character to test the capability of the equipment for properly reproducing various kinds of sound. For the purpose of testing film sound reproducing equipment in this way, Electrical Research Products has made a practice of using standard test films. These have, of course, been remade and improved from time to time to keep pace with the progress of the art. The type now being brought into use is made by noiseless recording. so that it can be used to test the fitness of a sound reproducing system to handle sound pictures made by the new method.

This newest form of test film has no picture but has two sound tracks, one including voice and music selections, and the other including several constant frequency sections, ranging from 55 to 8,000 cycles, and a length of unmodulated, that is, blank track for ground noise measurements.

The film serves a double purpose: first, it may be used to make a check of the general quality of reproduction by use of the track having the mixed voice and music recordings; second, it permits the frequency characteristics of a system to be determined by using the other track in conjunction with a volume indicator.

The presence of "flutter" may be detected by listening to the sustained notes of the singing and piano selections and to the constant frequency recordings.

High frequency loss may be detected by listening to the high notes of the piano, violin and orchestral selections, and especially to the voice sibilance which should be present in the talking and singing selections.

Low frequency reproduction may be checked by listening to the naturalness of the talking and singing selections and to the drum section of the orchestral selection. The bass notes of the piano selection will also sound unnatural if the lower frequencies are attenuated.

The two sound tracks are recorded from opposite ends of the film, so that when one sound track has been played, the reel on which the film has been taken up can be simply placed in the upper magazine and the film run through in the opposite direction, eliminating the necessity for rewinding.

It will be evident from the foregoing that a test film such as this must constitute a very valuable standard of comparison for determining whether any given installation is capable of affording sound reproduction of the high quality now essential.

New W. E. Photoelectric Cell Shows Advances

THE NEW 3-A photoelectric cell, recently announced by Electrical Research Products, offers another example of the constant improvement being made in Western Electric sound picture equipment.

The first cell to be used in Western Electric Sound System was the 1-A cell. This was replaced by the 2-A which embodied structural improvements over the 1-A. The 2-A now is replaced by the 3-A which has a number of improvements over its predecessors both physically and electrically.

The greatest difference lies in the use of caesium compound as the photo-active element instead of a preparation of potassium as used in the two earlier cells. The caesium oxide is coated on a half-cylindrical electrode and a small vertical rod forms the positive electrode. The former cells employed as the photo-active element a potassium preparation coated on the inside of the bulb, with a ring-shaped member forming the positive electrode.

To appreciate the nature of the advantage gained by this change, it is necessary to consider the relation that exists between the characteristics of a photoelectric cell and the light used to operate it.

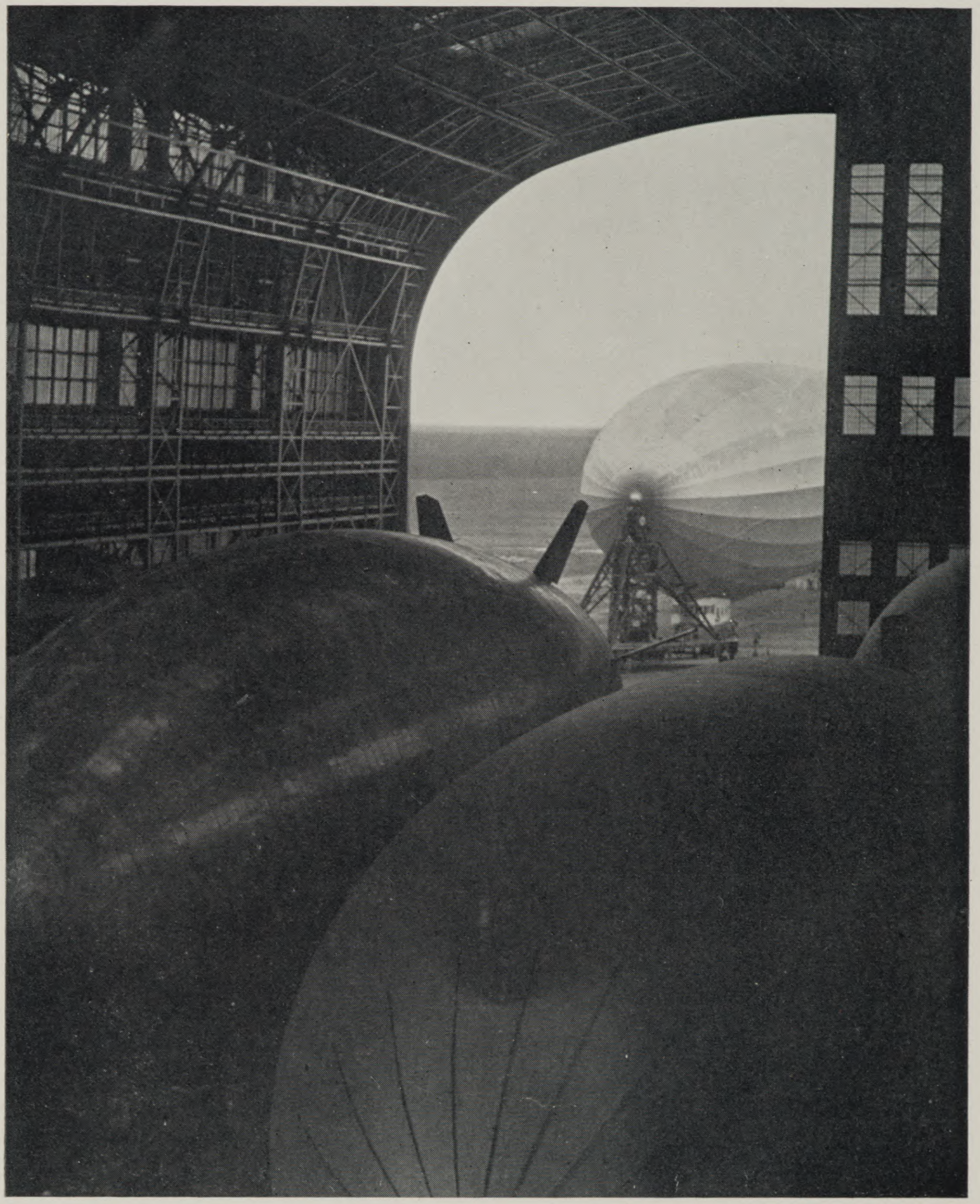
In apparatus for reproduction from sound recorded on film, the most practical type of exciting lamp, or "sound lamp" as it is frequently called, is a metallic filament incandescent lamp. Most of the light produced by sources of this type consists of yellow, red and infra-red radiations, there being comparatively little blue or violet radiation.

The sensitiveness of a photoelectric cell, that is the current it will pass for a given amount of illumination, usually varies with the color of the illumination. In other words, the cell is more sensitive to some parts of the spectrum than others. In the case of the potassium cell, the sensitiveness was greatest for blue and violet radiation. The greater part of the light produced by the exciting lamp was therefore not utilized. The caesium cell, however, is highly sensitive to radiation within the range produced most abundantly by the exciting lamp, namely yellow, red and infra-red.

This results in the 3-A having much greater efficiency than the 1-A or 2-A. This greater efficiency is such that the output averages more than 20 decibels higher. Individual cells, of course, may show a gain less or greater than the average.

A highly important advantage gained from the greater efficiency is the reduction in system noise which accompanies its use. The response from the cell being greater, the amplifiers can be operated with reduced gain, thus reducing the volume of any noise producing element within the system. This makes the new cell an important factor in enabling sound reproducing equipments to do full justice to recordings made by the new noiseless process.

Besides output efficiency, there are other improvements to be found in the new cell, such as its ability to produce a more faithful electrical copy or translation of the sound track; its ability to maintain its electrical and circuit characteristics unchanged and its immunity from rapid deterioration and loss of sensitiveness in storage or use.



Dirigible **Elmer G. Dyer, A. S. C.**

Farewell, Depression!

AGFA Ansco Corporation, formed in 1928 by Ansco Photoproducts, Inc., oldest manufacturer of photographic materials in the United States, is employing twice as many workers today as at the beginning of 1929, according to President Horace W. Davis in his annual report mailed to stockholders last month.

Earnings last year amounted to $47,380 or almost double the earnings of 1929. This is, of course, a small amount, but it is worthwhile mentioning that during a period of organization and development the corporation has been carrying on its new projects, research work and expansion entirely from its own earnings. Charges against earnings also include considerable amounts set aside for depreciation.

Reserves increased from $139,858 in 1929 to $201,254 in 1930 while Capital and Surplus showed a slight increase from $5,598,162 to $5,625,080. Current Liabilities decreased from $843,592 in 1929 to $464,411 last year and Current Assets from $4,407,287 to $4,088,337, thereby increasing the ratio of Current Assets to Current Liabilities from 5 to 1 in 1929 to 9 to 1 in 1930.

"Changes in standards in certain of our products, coupled with conditions generally applying to the past year somewhat retarded the projected normal operations of your company," Mr. Davis said. "It is pleasing to report that production and sales volume have been maintained on a satisfactory basis. The Company's advance during this year has been continuous both in its internal organization and with relation to the trade."

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S. M. P. E. Spring Meeting Plans

AS THIS issue of the Cinematographer goes to press only a tentative program for the Spring meeting of the Society of Motion Picture Engineers, to be held in Hollywood, May 25th to 29th, inclusive, is available. It follows:

May 25th—American Legion Auditorium.

9:00 to 10:00 A. M. Convention registration.

Convention called to order at 10:00 A. M.

Opening addresses and response by the President.

Reports of Secretary, Treasurer, Progress Committee, Convention Committee and Papers Program.

12:30 to 2:00 P. M. Luncheon, committee reports and papers program.

8:00 P. M. Get-together gathering of members and guests, with showing of specially selected film program.

May 26th, 9:00 to 10:00 A. M. Registration. 10:00 A. M. Papers program. 12:30 to 1:30 P. M. Luncheon. In the afternoon studio visit, itinerary to be announced later.

Tuesday evening, special papers program, now being planned.

May 27th—American Legion Auditorium—9:00 to 10:00 A. M. Registration. 10:00 A. M. Papers program. 12:30 to 1:30 P. M. Luncheon. Afternoon, visit to Paramount studios. Evening—semi-annual banquet, Roosevelt Hotel, 7:30 P. M.

May 28th—American Legion Auditorium—10:00 A. M. Papers program. 12:30 to 1:30 P. M. Luncheon. Afternoon program of recreation being prepared. The papers committee has a program under consideration for the evening.

May 29th—American Legion Stadium—10:00 A. M. Papers program followed by an open forum and discussion of plans for the Fall meeting.

The Convention Committee is composed of the following: Chairman, W. C. Kunyman, W. C. Hubbard, M. W. Palmer. Papers committee, O. M. Glunt, chairman. The Hollywood local committee is composed of Peter Mole, chairman; D. MacKenzie, C. W. Handley, K. F. Morgan and J. P. O'Donnell. The convention headquarters will be at the Roosevelt Hotel. All technical sessions will be at the American Legion Auditorium.

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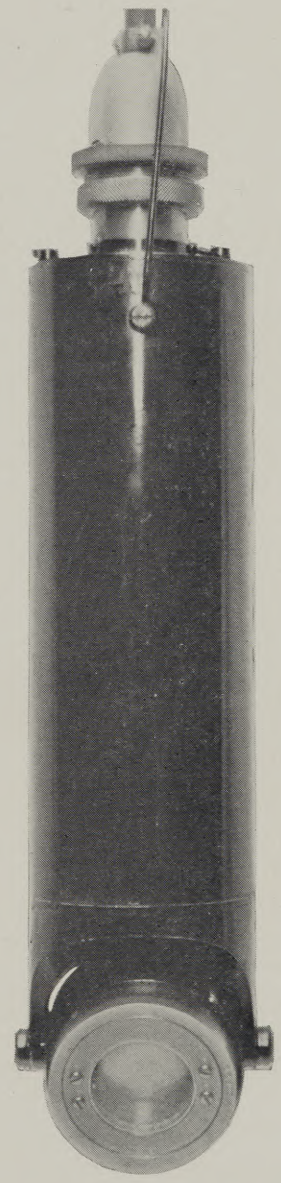

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Amateur Movie Making

by WILLIAM STULL, A. S. C.

AFTER having been ill for so many months, I find it very hard to adequately express my pleasure at being able once more to resume my activities in this department. Cinematography—amateur and professional—has always given me a vast deal of pleasure, and the opportunities for additional contact with similarly minded souls, and, I hope, for giving them aid in the pursuit of their hobby, has increased that pleasure to a degree that I could scarcely appreciate until my illness suddenly robbed me of it. During my illness, however, it was most gratifying to observe the way in which Hal Hall, in addition to his manifold duties as Editor of this journal, stepped into the breach, and so capably conducted this department in my stead. The kindness of my friends among the A. S. C. and elsewhere, was also most heartwarming, and I wish to take this opportunity to thank them for it, and also to thank my various correspondents for their forbearance with the lack of consideration with which my illness forced me to treat them.

Such an enforced vacation as mine, though less pleasant, is not too different from the annual respite which the winter months often give to amateur photographers, inasmuch as it afforded plenty of time for retrospective consideration of cinematography. And such a temporary cessation of one's active participation in cinematography can frequently serve a very useful purpose. We are all too prone to carry on our hobby with too little study of our past performances—and accordingly with too little attempt to analyze and to correct our mistakes. So if we are to progress—and progress we must—we should now and then take time for careful reflection. There are so many little things which we find, upon such study, that we do wrong in the excitement of making our scenes, which, though they may seem right enough at the moment, will become very inconvenient when our film reaches the cutting room.

Getting the Meaning of Each Scene

For instance, how often do we find that we have grasped merely the externals of a scene, and quite overlooked its real meaning? After all, there is only one reason for photographing anything: **to tell a story.** What that story **is**, is quite another matter: it may be a part of a little drama; it may be a record of some trip or holiday; it may be merely the story of some of Nature's beauties. But the story must be there, or there is no excuse for the scene. Every detail in the making of the scene must be carefully considered so that the whole will combine to tell the scene's story most efficiently, and so that the individual scene will fit in perfectly with each of the other scenes that go to make up the completed picture.

Of course, most amateur cinematographers who have gotten far enough along in their study of their hobby to appreciate the importance of these details have surely progressed far enough to guard against glaring errors in exposure, or such details in direction as allowing exits and entrances to become "crossed;" but there are many smaller details which they will persistently overlook. I think that these are most likely to occur in the simpler scenes which, from their very simplicity, we are all inclined to rush through. For instance, in those scenic films which we all make during our vacation travels, we manage to get along passably enough in the scenes where there are people, for we realize the importance of detail in such scenes; but when it comes to the strictly scenic shots which we shoot separately, to be cut into the more intimate action of our pictures, we find ourselves far more likely to grow careless. For instance, there is the matter of tonal quality: it is all very well to work for softness or nice color-rendition in these purely scenic shots—but it is something quite different when we find that these individually beautiful scenes must be placed next to wiry-sharp, unfiltered scenes of our action when the film is assembled. There they will stand out like the proverbial sore thumb, so we must remember to either make our action-scenes correspondingly soft, or to make our landscapes sufficiently wiry to match the action.

Then there is the matter of camera-movement. When we are working with actors, it is not so difficult to keep the general movement of the scene (that is, the movement of the action as well as the movement of the camera) flowing in the same direction, for we are consciously thinking of this particular detail. But when we come to making the scenic panoramas, etc., that are to be intercut with the action, we are too likely to concentrate on the individual shot and forget its relation to the rest of the picture. Therefore, it is wise to adopt some general direction for the flow of filmic and physical motion of a picture, and bear that in mind in every scene. Probably the best general direction is from left to right, for it is more positive than the reverse; similarly, if your people are admiring some high objects, like skyscrapers, mountains, or waterfalls, the best direction to follow in both action and vertical panning is from the bottom **up.** In short, always keep your action moving **into** the picture—**toward** the object of interest—not away from it.

Similarly, in such cases, it is well to make sure before starting to shoot, just what is the chief object of interest. I recall one film I have seen which was made in the Yosemite Valley, and in which the cinematographer quite completely overlooked this; he made a number of striking scenes of a beautiful fall in a towering ravine—and quite forgot that the object of paramount interest was the waterfall, and **not** the height of the canyon's rim above the fall. So, in the course of an excellent series of vertical pans of the falls, he persistently continued his pan far above the top of the falls, instead of merely panning upward until he could make an attractive composition of the crest of the falls, holding it for a few moments, and cutting or fading. The result was very irritating, and not entirely remediable by sharp cutting.

Angle-Shots

Another phase that should receive careful consideration is the use of unusual camera-angles. Without doubt, they add greatly to the semblance of originality in a picture; but they must not be allowed to detract from the free and natural progress of the film's story. Their best use is to suddenly accentuate some more or less dramatic action or character. Used wisely for this purpose, they are of very great value; but used for their own sake, in the place of a plain, straightforward shot, which would express the same thought equally well, without breaking up the flow of filmic motion, they can be an equally great hindrance.

But did you ever try to make one of these shots from an unusually low viewpoint, and still use your tripod? Difficult, isn't it? Well, why not take a leaf from the professional cameraman's book, and use a baby tripod? Of course, there are no regular baby tripods on the market, but if you use one of the several wooden-legged tripods, with a detachable pan-and-

(Continued on Page 44)

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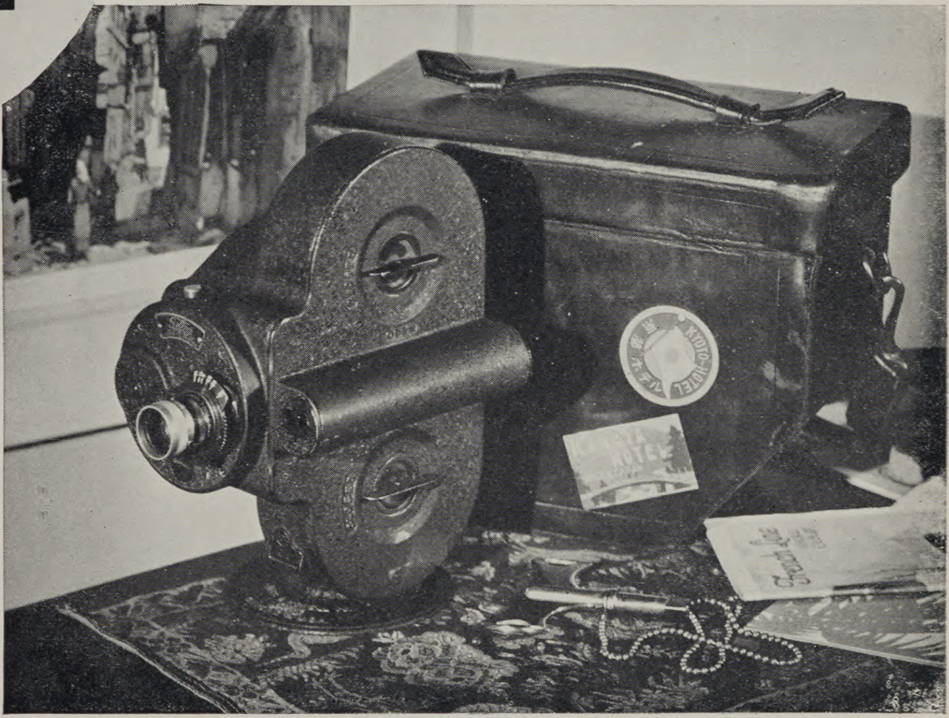

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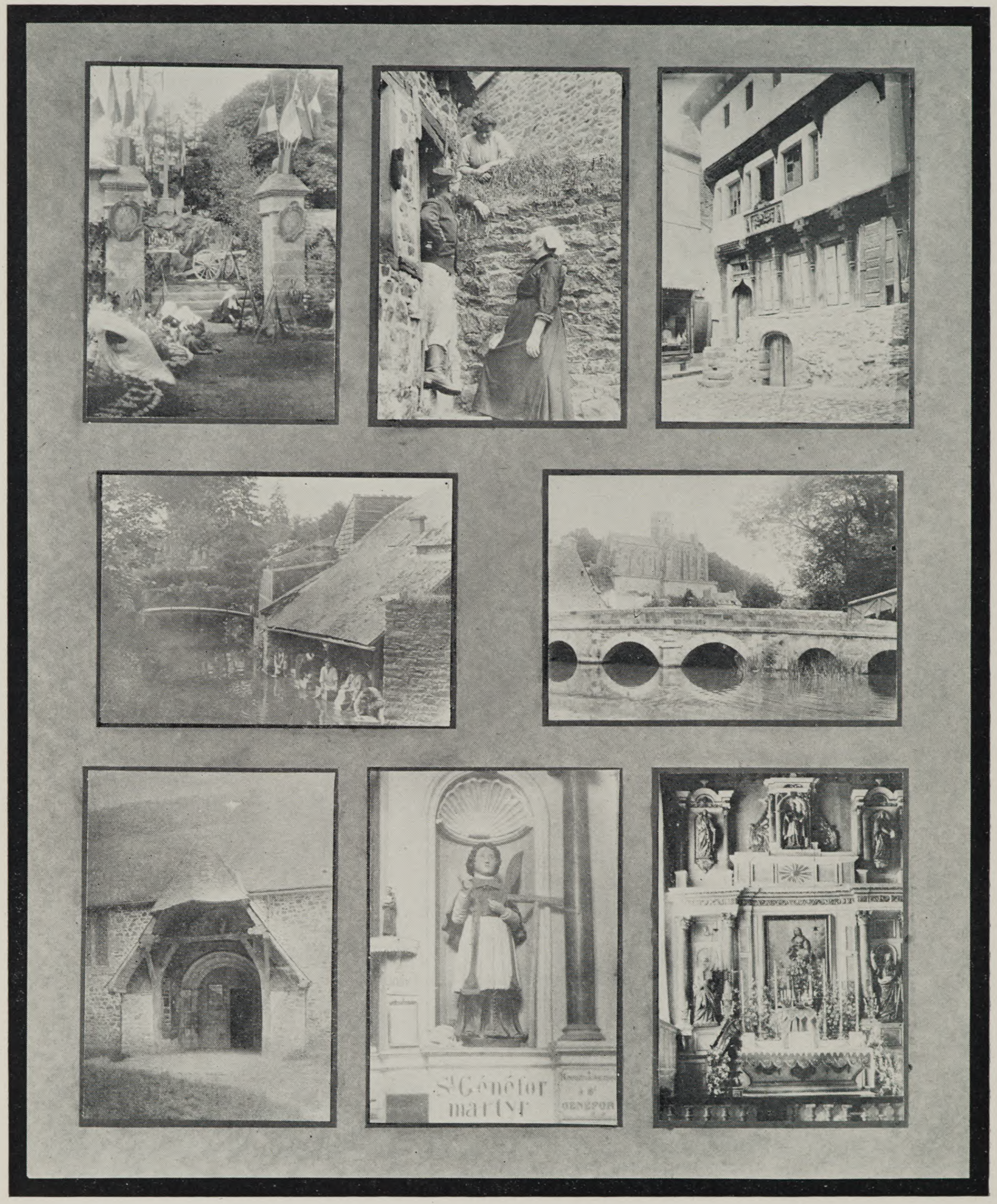

Upper left, Nuns preparing and decorating a "Reposoire" on the eve of the procession of "Fete Dieu." Upper center, just married and off to the Front in the morning. Upper right, the Executioner's house, Lamballe. Left center, wash day at Lamballe. Right center, Bridge and Cathedral, Lamballe. Lower left, the artist's delight, wooden porch of St. Martin, Lamballe. Lower center, St. Genefor, Saint for children's ills. Lower right, Reredos, St. Martin.

Babbling About Brittany

by **LAWRENCE GRANT**

This is the second article of an unusually interesting series which Mr. Grant has written for this magazine. The third will appear in the June issue—Editor's Note.

SHOULD you ask a Breton what he is, he will not say with pride, "I am French." No, he will say quite simply: "Breton," then you will say: "Yes, but French?" He will reply: "Breton, yes; French? Perhaps." You will be surprised even today how many of the old people cannot speak French at all. At first I thought they could not understand **my** French, and who could? But the old ones cannot understand, and do not speak any French at all!! They only speak Breton, which is not at all unlike Erse, the native Irish; in fact being in Brittany is much like being in Ireland. The same facial characteristics, the same picturesqueness, (not **quite** the same, for never can there be quite the beauty of Cork or Killarney or the poetry of Kildare) ; the same charm, and again a likeness to Cornish and Welsh; a great similarity to the Welsh language, and why not, are we not all Celts, and proud of it?

(Note: I am a Celt myself.)

So we get right into Brittany at Lamballe, the home of the famous Duchesse de Lamballe, friend and confidante of the unfortunate Marie Antoinette, famous for Pottery, a gorgeous church of Roman, which out of France, we call Norman architecture, and for St. Maclou, a son of Queen Clothilde of these parts.

St. Maclou flourished about the 11th century. It was rather unfortunate because "long-hairs" were just as unpopular then as they are today, and while he and his Royal Mother doted on his long red hair, it was not "being done" by the most robust people, and all the flapper's favorites had to be shaved of head. So the Queen being, after all, just a "Mother" and Maclou being just "Mother's Boy and Joy" had only one thing left to do to protect his hair and him, she made him a monk. And he became very famous as a saintly person, and he could cure almost any disease of the head. In nature's time he died, and they canonized him, as St. Maclou. To be cured you come to his statue in the church, or what the rude revolutionists left of it, for being a royal Saint, they did their best to obliterate him, but, thank goodness, there is still the head left, and you extract a nail from your shoe, and you scratch his nose with it, and ask him to cure you. And he cures you of your headache, but you get a torn thumb dragging out the nail.

At the other end of the town there is one for your child, in St. Martin's church, St. Genefor. He is devoted to children, especially crippled ones. He was a Scotchman, and I never could find out why he came over to poor Brittany, but you bring your child to him and pray and then he is cured and you leave the little one's crutches, or whatever he no longer needs and there is a small box for any offering you care to give, and there is "Merci" already printed thereon to thank you for your gift.

And as I babble about all these things, and these curious Saints, and their powers, please let no one, not even the most ardent Catholic, take offence, I do not mean it so. When you go to Brittany you will understand the remarkable attitude of the Breton of today towards these primitive saints. They are not sure they are really as potent as old stories say, but they do not quite care to let them go, and under the feeling that if they do not do any good they cannot do any harm, they stick to them.

This old church has a lovely wooden porch which has been the delight of architects, it is in good condition, and bears the inscription:

"L'an mil cinq cent dix-neuf
Jean l'aine me fit tout neuf."

which says that John made the porch over "all new" at that time, but it only says "John," who, probably well-known then, is forgotten now.

If you happen to be here at the time of "Fete Dieu" (which is equivalent to our "All Soul's Day" is it not?) you will find everyone very busy preparing for the procession; all along the route there will be side altars set up, some very ornate, some very simple, and at most of these the Priests will halt, say a short service, and then continue round the city. These waits at the "reposoires" as they are called, take time, making the procession a long and tedious affair.

During the revolution there were so many supporters of the Princess de Lamballe and therefore partizans of the detested Royalty and Marie Antoinette in particular in this place that they brought in a special executioner, and as he was a very necessary person, they certainly saw him "well disposed" as Hamlet wanted his actors to be, for they set him up in a most delectable house, still called "The Executioner's House." Uninhabited and falling into ruins when I last saw it, it is full of lovely carved oak, and all could have been bought for a song!

French people are great persons for washing their dirty linen in public, and in all these little provincial places the river is the natural and proper place for this laundry work to be carried out, and very picturesque they manage to make it. Sometimes there may be a solitary laundress outside a cottage back door, or a neat old servant at the back of a larger house, but very frequently there is a public place, constructed conveniently for the purpose, and here, in force, will be the village gossips, soaping and rubbing and paddling and smiting the linen with wooden instruments and scandalling, all making a very pleasant sight and sound, the river running, the smacking of the paddles, the swish of soapy clothes and the pleasant chatter and laughter. The Laundry place at Lamballe is very picturesque, though of course there are many more than this one in the town.

Very rarely does one come on a "snap-shot" which tells a story and is good pictorial construction as well. Even when a Mayor lays a foundation stone, the press generally take a fake photo posed after the event, but coming round a corner one day in 1915 I snapped the group on the other page,

Mother, Son, Bride. Soldier and girl were married that morning, and the next day he was off for the "front."

"C'est la Guerre."

At one of the Benediction services I attended here when the priest held up the monstrance, that is the large gold plated vessel in which he is supposed to put the Wafer, with which he blesses the people, he forgot to put it in, and it was very curious to see his eye peeping through the round hole in the centre of the sort of sun burst halo, where the Host should be.

He was in the most awful state of mind when he discovered what he had done, and could hardly be consoled after the service. You pay spot cash for your seat. A penny (French), the plate going round as for a voluntary contribution. I watched an old woman one night, she, poor soul, had a large coin, but no change so she put the coin in, then took a firm hold of the plate lest it should escape her, and slowly and solemnly counted herself out the correct change.

Nearly all the congregation in these places are peasants, though occasionally the "quality" will also be in the church. In the small villages all are peasants, but in Lamballe I happened to know, and was entertained by, a very distinguished old English lady, married to a Frenchman, a Madame de Cargouet, once lady in waiting to Empress Eugenie, and she was regarded with great awe by the townspeople.

Even the Priests, as in Ireland, very frequently come from the peasant class and though some people quote this against the Church, I do not see much force in the objection. Their religion started with a Peasant, he was followed by Peasants, a recent Pope was a peasant, and as it grew from poor people to its present high estate, perhaps there is not much wrong with it as long as peasants and the poor hang on to it, and find consolation in it. I suppose it does not require men of genius or people of fashion to have Faith.

I like to look over some of my old hotel bills, (pre-war) and here I find my room was 3 francs, coffee sent up to bedroom, with "crescents" 12 cents (American); lunch with wine, 40 cents; dinner with wine, 50 cents; and I appear to have paid for three days' food and lodging, including wine, about $5.50 total. I wonder what it would be today?

Things to see: In addition to the things mentioned, as well as driving out to the potteries, at a little place called "La Poterie." Ruins of a castle at Hundaye, about 9 miles away, on the same road as La Poterie, so done same day. Les Ponts-Neufs about 6 miles, at the sea.

Here we are at Lannion, famous for St. Ivy, quite the most popular and powerful Saint in these northern parts, St. Ivy, or Saint Ervoan, of whom the song is written:

"There is not a saint, there is not one,
There is not a Saint, Like our St. Ervoan."

He was a great scholar, an attorney by profession, (imagine an attorney becoming a Saint!) who charged no fees, but took up the cases of the poor against their rich oppressors for nothing, (imagine an attorney doing that! No wonder they made him a Saint) and afterward he became a Bishop. He is usually represented as a student, or as a Bishop, in the myriad statues of him that you will find everywhere hereabouts, on the ground, above the ground, and high up in the air, for they stick him up wherever they can find a corner to put him, even at the corner of the second story of a house in Lannion, as you will see on the other page. It is a lovely old timbered house, but this Saint in all its old bright colors greatly adds to the charm.

But I am going to leave St. Ivy for a moment, who was famous years ago, and ministered to the spirit, and to the financial and property rights of the poor, and deal with a modern celebrity, who ministers to the inner works of man's anatomy.

A man, not a man, an **artist,** M. Jules Prigent, proprietor and chef of the "Hotel au Grand Turc" at this lovely little town. To be the "patron" of the hotel, of any hotel, that is something, because you own it, it is yours, you are someone in the community, you may be the president (or the local French equivalent, if so gay a people can have an equivalent for so serious a group) of the local Chamber of Commerce, or even worse, the song leader of the Rotarians, or you may even become M. le Maire and with the tricolor for a sash, and an old fashioned silk hat, marry the young people, and punish the evil doers in the community. All these things you may do because of your position as the "Patron" of the first local hotel, but if you are also the Chef, if you are also the gastronomical marvel that Jules was, and I most sincerely pray still is, if you are such a chef as may, without impudence or braggadocio, claim to walk the same path, the same road as the great, never to be forgotten Savarin, the prince of cooks, then, to be Mayor, to be president of the Lannion Rotary, the Lions, or the Kiwanis, nay, to be President of France, cannot add one cubit to your stature or your fame, for he who can cook, ("cook," the word is too coarse and commonplace for what Jules does to fish and fowl) he who can cook like Jules can have no greater honor than the loving admiration of those travellers, French, English, American, or any other nationality, who are still old fashioned enough to know the difference between "gigot d'agneau roti, garni" and "roast lamb with trimmings," or who have a palate sufficiently trained, (and still unspoiled) to appreciate the more delicate qualities of "sole a la Colbert" compared with say, "swordfish a la Catalina."

In this country of cooks, Jules, you are a marvel, and I have waited long to pay you this tribute.

And in this little, out of the way place, if you select the Grand Turc, what a reception you will get. You will be shown to your room, you will find it perfect, you may wish a bath, or at least a wash of hands and face, and being fastidious you are travelling with your own soap. Unnecessary here. You will find by the side of your basin, untouched and fragrant, a cake of Roger and Gallet's Violette de Parme, you will find lovely linen towels; probably a bunch of flowers, and you will stroll down to dinner, and for Francs 2.50 (50 cents) you will, or did, get the kind of food indicated. And you will then probably meet your "host" and you will find him the gayest, cleanest person, coming fresh from his kitchen, yet smelling more of Roger and Gallett than of frying and food, a little "poudré," perhaps a little "rougé" and perhaps a little,—well, anyhow I am not going to cavil as to where such a chef and host cares to look for relaxation.

And the funny thing is he thinks he can paint. The place was littered with bad art, and full of good cooking. I can only urge him to stick to the palate instead of the palette.

However, back to St. Ivy, who has a little village named after him and there you will find him ensconced in great power and held in marvelous esteem. There is a pool where he will tell you what will happen to your children should they be ill. He, or his likeness in stone, sticks out from the wall and below is a little pool. Should your child be sick you go to this pool and on its waters, after prayer, **and offering,** you place a pin on the surface. If the pin floats, your baby will recover!!

Now, naturally, you want your baby to recover, and the tendancy of a pin is to sink; but, strange as it may sound, "believe it or not" as Ripley says, it is possible to place a pin on still water so gently that it **will** float.

Another method of divining is to float a chemise belonging to the little one on the water, then if that **sinks** she will recover! After all a light little garment spread out has a distinct tendency to **float,** so the little one is in a bad way whichever method you try.

Of course, the more unpropitious the augury, the more you naturally put in the "tronc" at the side in the little adjacent chapel.

This is one of the districts and towns par excellence for old timbered houses, with lots of inside panelling. For instance look at the street illustrated here, and you see some splendid shops all along as far as the picture goes; perfect examples of timbered and carved houses; and the two houses of more pretentious sort standing in another street. Inside, in addition to the panels, you will probably find a mass of old furniture still left, though as the years pass by, tourists are gradually offering prices for all these things that cannot be resisted by a more modern generation, and the country side is losing its treasures, and in years to come will also lose the very atmosphere that has drawn the tourists with their money to the land. If they could only look ahead they would **keep their treasures, capitalize them,** and **never** let them go.

Sabots are passing out, and untidy city made boots are coming in, but only slowly, for sabots are cheap and lasting, also fine for wet and mud.

This father with two sons and two little girls live on the factory, which is the hut, home, store and factory all in one.

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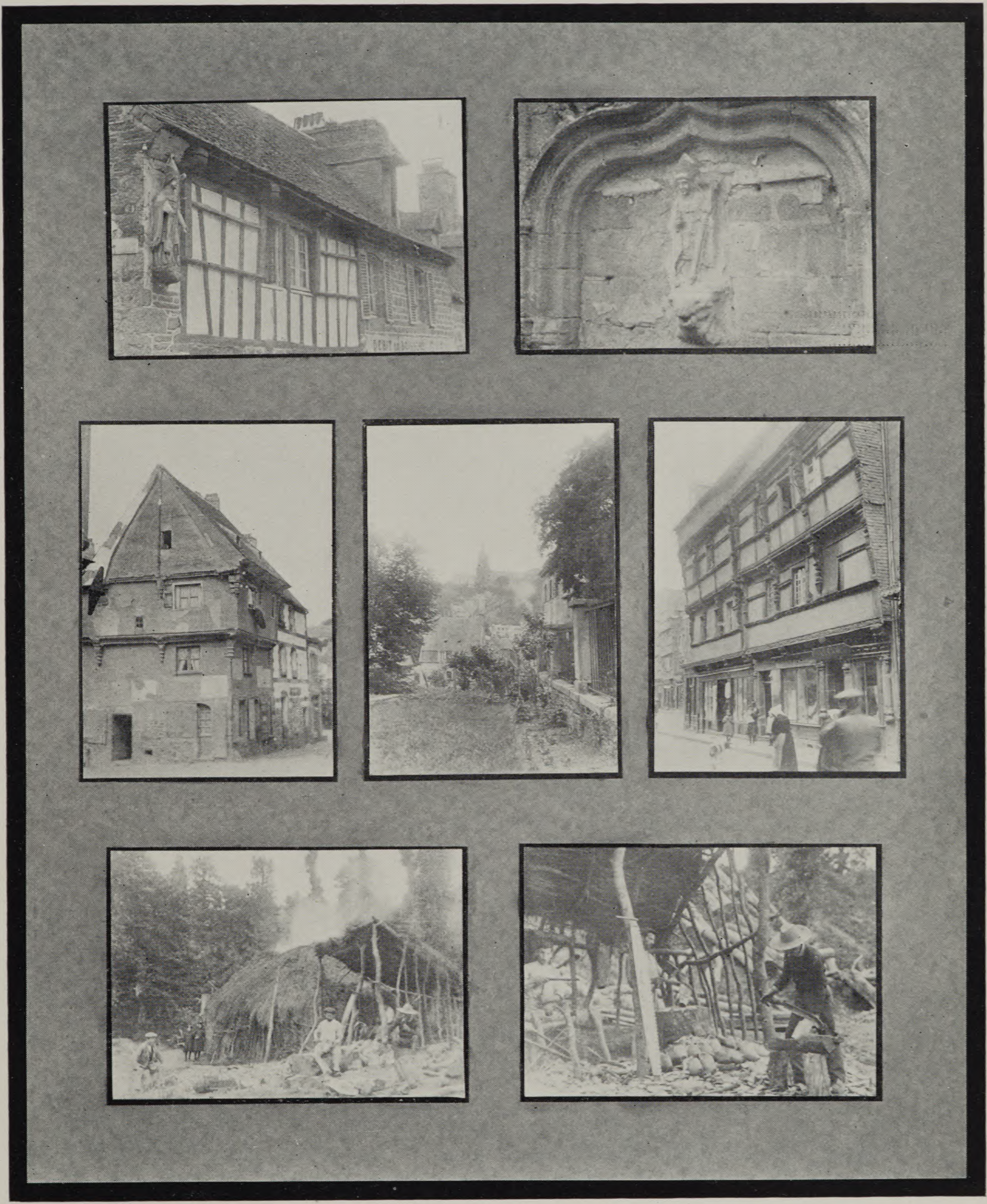


Upper left, St. Ivy, or St. Ervoan, attached to the top story corner of a house in Lannion. Upper right, St. Ivy presides over his fountain. Left center, a typical town house. Middle center, from Lannion churchyard, looking to Brelevenez. Right center, row of shops in Lannion. Lower left, a family of Sabotiers. Lower right, the whole works. Store of lumber at back. Big saw for trimming to size. Son with hatchet shaping. Father finishing with knife. Another son hollowing out interior. They live here, too.

Wide-field Pictures on Narrow Gauge Film

by **FRED SCHMID**

Vice-President C. P. Goerz American Optical Co.

IF WE compare the angle of view embraced by the lens of the usual view Camera with that obtained in motion picture photography we find that the angular field of the motion picture is decidedly narrow.

In a camera for still photography of 3¼"x4¼" size the usual focal length of the lens is 5". The angular field on the long side embraces 48°. For 35mm. motion picture film with a picture aperture ¾"x1" which has about the same proportion as the 3¼x4¼ size plate, a focal length of 2" is the standard. This embraces an angle of only 28° on the long side of the picture.

Now, it is a fact easily checked by visual observation, that most of the outdoor scenes and such events as sports, football, baseball, horse races, etc., which the cinematographer is likely to be called upon to take, have the direction of motion and their principal points of interest mainly in a horizontal direction. The cinematographer will only too often find that he cannot embrace a sufficiently large horizontal field to cover enough of the action which makes the picture worth while taking. He has to resort to panning, an effect often detrimental to an ideal presentation of the picture on the screen.

Furthermore, it will often be desirable to image the principal objects, such as the players in a game, or distant objects as large as possible on the film so as to present them and their actions in detail on the screen. This calls for lenses of still greater focal length than the standard 2" and the angular field of view is further restricted in inverse proportion to the increase in focal length.

The professional cinematographer has been cognizant of this limitation of his camera for a long time but has accepted it as inherent in the making of motion pictures.

With the advent of the "talkies" by the sound-on-film method it became further necessary to cut the already too narrow picture field by fully 1/10 of its width. The remaining picture became almost square and the unsuitability of such a narrow picture field for a great number of outdoor events was sharply brought to the attention of directors and cameramen, charged with the responsibility of creating motion pictures which would appeal to the artistic sense of their theatre patrons.

The only solution of the problem seemed to be the use of a wider film than the standard 35mm. This made necessary the production of new equipment, not only in cameras and photographic lenses but in new projectors and laboratory machinery for processing this new size of film. The outstanding result is "Grandeur," a picture twice as wide as the standard 35mm. It created considerable interest, its effect was truly marvelous but—it was terribly costly to produce. There followed in the trail of this new development so many difficulties of a technical, optical and especially economic nature that for the present the idea of a general introduction of wide-film motion picture presentation on the professional screen seems to have been laid aside, if not entirely abandoned.

In the field of 16mm. amateur motion pictures the same conditions as to relative proportion and size of the picture prevail. The amateur camera is more or less a smaller edition of the professional camera, the relation of focal length to picture size is practically the same, the angular field of the screen picture is narrow. A wider field is decidedly desirable. The same objections to the introduction of a wider film than 16mm. hold forth. The many thousands of amateur cameras, now in use, would have to be discarded and the higher cost of the wider film material would be detrimental to a further development in amateur motion picture activities. Fortunately for the amateur motion picture maker, an entirely new solution of the problem of making wide-screen pictures on 16mm. film has been found. This new development lies in the field of optical science and as it is made available for the present for sub-standard cameras only, the amateur cinematographer, for the time being, has an opportunity to "score" over his professional brother in the presentation of wide-screen pictures.

A very interesting and novel auxiliary lens system, based on the computations of Dr. Sidney H. Newcomer, a New York physicist and mathematician, has just been placed on the market by the C. P. Goerz American Optical Company of New York City.

This new lens consists entirely of cylindrical lens elements instead of the spherical lenses of the regular photographic lens. It does not produce an image by itself, but has to be used in conjunction with the regular photographic lenses when taking wide-field pictures. In the same way the same lens must be used in front of the projection lens when projecting these films on the screen.

The function of this new lens system which has been named the "Cine-Panor" is therefore twofold. When used on the camera, it compresses into the narrow film aperture of the 16mm. camera an image which has a 50 percent greater horizontal field than what the photographic lens alone would embrace. This compression takes place in a horizontal direction only, that is, the height of objects remains the same as the photographic lens alone would produce them. The width of objects and with it the extent of the horizontal expanse of the scene appear in the film at only 2/3 their proper size. If this film were projected in the regular way, the result would be a screen picture of standard size with all horizontal dimensions compressed to 2/3 their normal width. To bring back the normal proportion of the scene, it is therefore necessary to add to the projection lens the Cine-Panor system by placing it in front of the former. On the screen the proportional size of objects will now be restored, at the same time the picture size will be spread horizontally by 50 percent, giving a picture which is twice as long as it is high, with all objects in effective panoramic perspective. The result is a "Grandeur" effect produced with standard 16mm. equipment and film material. While the Cine-Panor auxiliary system can be applied to photographic lenses of any focal length, some lens mounts possess structural limitations to its application. For instance, the wide-angle lenses of 15 and 20mm. which are now being used with 16mm. cameras, are set too deep in their mounts to allow the correct placement of the Cine-Panor. The same is true in some types of 1" lenses such as the f 1.9 Cine-Kodak lens of 1" focal length. Most of the standard 1" lenses such as are supplied with the Filmo, Victor,

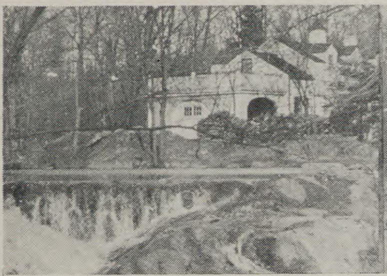


Fig. 1

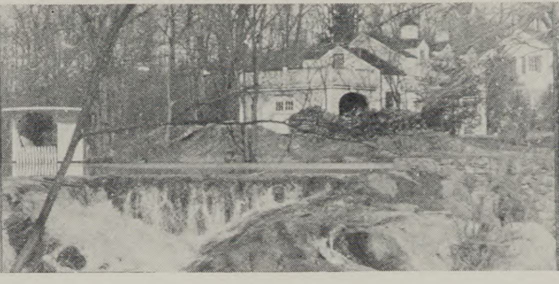


Fig. 3

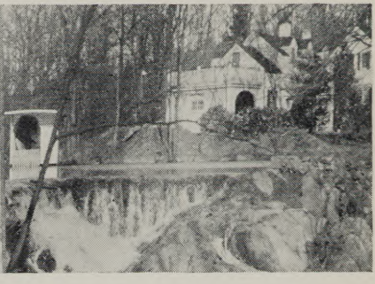


Fig. 2

Kinecam, Nizo and other similar types can be converted into panoramic lenses by the addition of the Goerz Cine-Panor.

The horizontal angle embraced by this combination is about 36°, or nearly the same as a 15mm. wide angle lens would take in alone. The advantage of a 1" lens, aided by the Cine-Panor, over the 15mm. lens alone is that, with practically the same extent of field, all objects are almost twice as large as if taken with the 15mm. lens.

The same advantage of wider panoramic field with greater height of the objects is retained with all longer focal length lenses. The field of the 2" lens is increased from 12° to 18°, that of the 3" lens from 8° to 12° and that of the 4" lens from 6° to 9°.

This is a most desirable feature for all long-distance shots and many of the close-ups, where the cinematographer may now select the largest possible focal length to depict his objects within the vertical limits of his picture aperture, at the same time having the assurance of adding 50 percent of action in the horizontal direction to his screen picture.

The fitting of the Cine-Panor to lenses and cameras can be done in various ways. The most desirable method for turret model cameras is to provide a universal bracket holder for the Cine-Panor, attached to the side of the camera. This holder carries at the same time a separate finder assembly, giving the panoramic field for a 1" lens, with demarkation lines for the field of a 2" and 3" lens. Such an attachment does not in any way interfere with the regular use of the camera. Standard size and panoramic pictures may be taken on the same film in any desired sequence. The process of taking panoramic views is in no way different from the usual procedure except that it is recommended to allow for a slightly increased exposure which need not be more than from 10 to 15 percent. This will probably be in most cases within the latitude of the emulsion. The processing of the film, being of standard 16mm. gauge, is done as usual.

In the projection of this type of film it is, of course, necessary to add the Cine-Panor to the projection lens. The same lens which served on the camera is used on the projector. It is merely necessary to fit another bracket holder on the side of the projector and attach thereto the Cine-Panor lens by means of its bayonet lock. This holder has a spring-locked hinge which provides a quick means of swinging the Cine-Panor in front of the projection lens whenever the panoramic sections of the reel are to be shown. A larger screen, twice as long as it is high, will have to be provided however. It is also recommended to have a projection machine with the best possible illumination. If we assume a light source of a given intensity, it must, of course, be expected that the resulting screen illumination will be less if we spread the amount of light over an area which is 50 percent greater than the standard screen size. This is what really takes place when projecting Cine-Panor panoramic pictures. The screen illumination goes down about one-third. It is therefore an advantage if the projector has means of stepping up the intensity of the light source in case the density of the film positive should make it desirable to increase the illumination when panoramic pictures are being shown.

While a real appreciation of this novel presentation of panoramic pictures can only be had by viewing the wide screen picture, the illustrations accompanying this article will help the reader to a clearer understanding of the working of this new lens. Fig. 1 represents a normal view as taken with the 16mm. camera. Fig. 2 shows how a wider horizontal view is compressed into the normal aperture proportion. A comparison with fig. 1 will show that the height of objects is the same, while their width is compressed to two-thirds. Fig. 3 illustrates the screen picture with all proportions correctly restored as in fig. 1, but with an increase of 50 percent in the horizontal field.

This same principle of producing wide-field screen pictures with standard 35mm. cameras and projectors can be adopted for the professional screen as well by making the auxiliary lens system of suitable size. That it hasn't been done is most likely due to the uncertainty in the minds of motion picture producers whether, under present economic conditions in the motion picture industry, the time is opportune for introducing this new feature.

It may, however, well be possible that results being obtained in the 16mm. field with this new auxiliary lens system will act as an incentive to producers in the professional field to take it up. It would be proof that a reciprocal interest in each other's achievements between the professional and amateur motion picture producer will be fruitful to both and work for an advancement of their art.

●

Filmo Topics

BELL & HOWELL'S interesting monthly magazine, Filmo Topics, contains much of value to the amateur in the May issue. This magazine may be secured free by writing Bell & Howell at 1801 Larchmont Ave., Chicago, Ill. The contents for May follow:

TAKING KODACOLOR MOVIES.

TRY IT, ANYWAY—A plea for the discarding of cinematographic mental hazards, with evidence of the results to be obtained by so doing.

THE AMATEUR EMULATES THE PRO—A discussion of the uses of the new B & H Focusing Alignment Gauge.

FILMING AS YOU FLY—Some notes on the correct technique in taking movies from the air.

FILMO NEWS PICTORIAL.

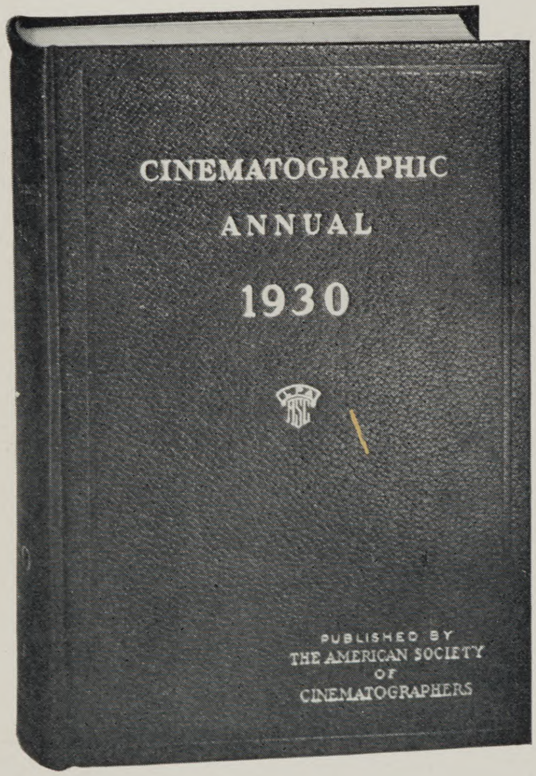
TITLING YOUR FILMS—No. 8. More ideas on title making from Filmo owners.

THE FILMO PROJECTOR "POWER PLANT"—Explaining what makes the wheels go 'round.

The Last Word

for Professionals or Amateurs..*the*

CINEMATOGRAPHIC ANNUAL



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Making the Amateur Movie

A British Amateur Gives Some Good Tips

by **J. P. LAWRIE**

IT ISN'T long after the possession of a home movie camera that the enthusiastic owner turns his mind to shots other than those of Alice running down (or up) the garden, and young Bill playing on the sands at Brighton! These, and kindred subjects have already cost a small fortune, and Oh, the distressing sameness of these films!

A feature film is obviously the next step and, whilst joining an amateur club for this purpose is undoubtedly the best thing for anyone to do, it is a regrettable fact that the great majority do not. Perhaps this is just as well—imagine a successful club of say 100 members, everyone determined to be the camera man! for of course, the camera owner, if he is a true enthusiast, will be camera man or nothing!

Well then, let us leave the club members alone and presume that they worry along without trouble. The non-member, deprived of the facilities for meeting others of his kind, promptly ropes in all his friends of both sexes, and in a wave of intense excitement a story is fixed, the players cast and shooting ultimately commences.

The result is that before the film is half taken, most of the band are half hearted, and by the time the thing is finished, quite half of the group will have drifted away.

This is caused by the extraordinary fact that over half the number originally recruited have nothing to do! It is not within the province of this article to detail just how the film should be taken or produced—that is the task of the directing men, etc. The trouble is that when all such jobs as actors, director, camera man, continuity, etc., are fixed, there inevitably remains a residue of very keen, but rather disappointed workers with no job save that of hangers on. The flagging and failing interest of this section will undoubtedly affect the others, and may spoil things quite a lot.

It is possible to give everyone a job of some sort that will make them feel that they are really taking part in the production, and will keep their energy and interest going the whole time. A few such posts are enumerated below:

1. Appoint some one to keep an eye on the exact position of props, etc., and keep a note of the actors' clothing.
2. Musical Director, either pianist or gramophile. Let him browse over and study the story for his setting, and why not let him try his stuff out during rehearsal?
3. A Liaison Officer. Select the most tactful of the party to interview folk to get permission for exterior shots.
4. Appoint a Film Editor and
5. a film Titler. (These two can work together.)
6. Art Director. This is most important, even if only for title backgrounds.
7. Appoint a Boundary man to see that other people and players not on the set keep off it. And during outdoor shots, keeps an eye on the background, giving a warning when stray cars and folk appear on the scene.

One could keep on indefinitely with such a list and, although many of these jobs may not at first glance seem strictly essential to the success of your film, it will be found that the distribution of such tasks, whilst being really useful in that, as the filming proceeds, so do such necessaries as editing, titling and musical setting, thus speeding up the whole production but the interest of everyone concerned is maintained right up to the end.

A final point, much celluloid will flow through the camera ere the film is finished, and a fair percentage of this will go into the waste film box. Is it not worth while to give everyone a brief mention in the preliminary titles? It only takes a few feet of film, and is exceedingly gratifying to the more humble workers in the cause—try it!

●

Babbling Through Brittany

(Continued from Page 34)

First the huge pieces of wood, (I **think** elm); these they tackle with the very big saw, then they begin with a huge and very sharp knife to carve out the figure of the sabot. The Father does this and the knife is fastened to the block at the extremity so that tremendous leverage can be obtained, and he can cut off chunks, or the thinnest of shaving, so expert is he. Then when the form is there, the boy takes it over. He puts it in a vise, and with hand gouges and augers he carves out the inside. Now when you buy a pair they will cost you, or did then, about 50 cents!! And no salesman can tell you: "They will be easier in a day or so, Madam, when you have walked in them a little," because these **will not** stretch. They will be the same today and forever. But then suppose you go to buy a pair, and nature has cursed you with some abnormality of foot, well you point out this promontory to the boy, and there and then he will hollow out a little sort of cave to fit that projection neatly, and you will be better off than with leather, because doing this does not change the contour of the outside of the shoe. How many a dainty new shoe in a shoe shop becomes a thing of horror when after a day or so some person's ill-used, ill-shaped foot has "worked into it."

The pin and shirt putting in St. Ivy's pool, is like workmen in a certain factory town in England, the day following the Easter holiday of two days, (Sunday and Monday). On Tuesday they all gather outside the factory at the correct time to start work, but then they pass through a ceremony called "throwing the brick." Someone says: "Let's toss up whether we go back today, or take another day holiday." So a man tosses up a brick, they having decided that if, when tossed, the **brick stays up in the air** they will resume work.

This is what is called "safe and sane," but they all await the decision breathlessly in case the brick should by a miracle stay up, and work become a possibility.

●

Latest Television Test

TELEVISION on a two-foot square screen, with close-ups almost as clear as motion picture scenes, was demonstrated in Chicago recently by Ulysses A. Sanabria, youthful inventor. Black and white pictures of near-by persons were reproduced across a room. Harold Hayes, Federal radio supervisor, described the images as the best he had seen in three years of watching television development.

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attention

The pictorial section of the next volume of the Cinematographic Annual is being compiled. Anyone wishing to contribute prints for this section may send them in now for consideration.

Amateur Club for Hollywood

A LONG felt need of the Los Angeles and Hollywood district bids fair to be filled by the Amateur Cinema Association of Hollywood, which is now being organized in the film capital. This new club is starting under the brightest of auspices, and is affiliated with the Amateur Cinema League. Its purposes, to quote from the by-laws which are now being drafted, are: "the furtherance of our combined interest in and study of the motion picture as a medium of art, education, and entertainment; to encourage experimentation and the study of the art of cinematography; to produce amateur films for exhibition; to propagate a film spirit in favour of a higher standard of theme and artistic depiction."

The following officers have been elected for the current year: President: Mr. H. Wellesley Devereux; Secretary: Miss Edna Helmerich; Treasurer Mr. W. J. Lander.

Two additional officers have yet to be elected after the adoption of the by-laws. These five in all will compose the Board of Directors, in whom the government of the Association and the management of its affairs will be vested. The handling of the various branches of the Association's activities (such as Scenario writing, costume and set design, casting, location and property management, photography, etc.) will be relegated to various temporary or permanent sub-committees to be appointed by the Board of Directors and approved by the members. Pending the election of the remaining two directors, the work of the President, Secretary, and Treasurer in forming the Association and other initial plans is being supplemented by a temporary Formation Committee.

Though the Association is as yet only in the nucleus stage, it is receiving enthusiastic support from some thirty members, while new members are constantly enrolling. Stories written by several of the members are being considered as material for the Club's first production, and work on the continuity and actual production are soon to follow. Screen tests for casting are already under way.

The Association holds regular meetings each Tuesday night at the Hollywood Studio Club, when matters of business and production are discussed and arranged, lectures are given by various authorities on different branches of motion picture arts, and films—produced by the members, or borrowed from the Amateur Cinema League's library—are shown. Among the recent speakers and visitors at the Association's meetings have been Joseph A. DuBray, A. S. C., Director of Technical Service for the Bell & Howell Company, and William Stull, A. S. C., of the American Cinematographer.

"The Association extends a cordial welcome to all individuals interested in any phase of amateur cinema production," states the President, Mr. Devereux. "Furthermore, we feel unusually fortunate in that, being located as we are in the heart of the professional film world, many of our members have had experience in different phases of professional production work in the studios. This should be of the greatest benefit to other members of the organization who are bona fide amateurs, and serve as well to give our productions a more finished quality than is generally found in the initial efforts of an amateur group."

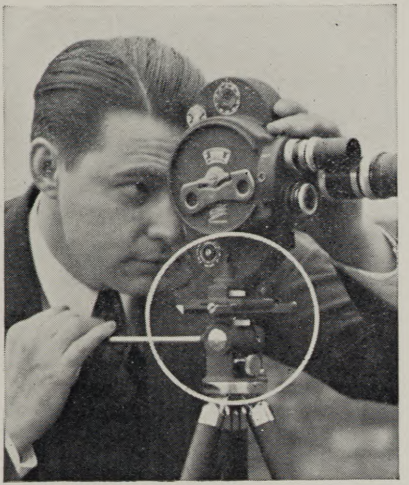
●

New Q. R. S.-De Vry Distributor

THE Q. R. S.-De Vry Corporation has appointed as exclusive Western distributor—Phil Lasher Ltd.—with offices at 300 7th Street, San Francisco, Calilf. The new company will take charge May 1st and will specialize in motion picture equipment and photographic supplies, dealing in both 16mm. and 35mm. silent and sound with a special department on visual education.

Phil Meisenzahl who has represented the parent Q. R. S. Co. for the past twelve years, will join the Phil Lasher company May 1st. Mr. Meisenzahl will have charge of the southern district while Mr. Lasher will remain in the North.

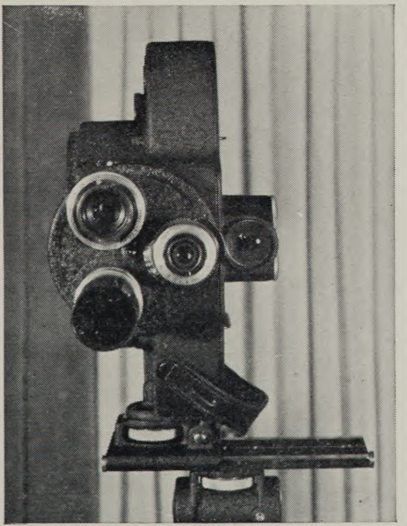
Focusing Alignment Gauge for Filmo



New focusing alignment gauge in use

ADVANCED amateur cinematographers and scientific research workers, including surgeons and doctors, who require precision results in their close-up motion picture work, will be particularly interested in the Focusing Alignment Gauge, just announced by Bell & Howell as an accessory for any Filmo 70 or 70-DA camera, especially for the latter. Every Filmo owner interested in title making will welcome the added possibilities for obtaining professional results which are provided by the new unit, which is an adaptation of a similar Bell & Howell device used with the professional cameras and is only six inches long by three wide.

On the Filmo 70-DA, with which the new accessory will be found most useful, the spyglass viewfinder is set to one side of the photographic aperture. While the finder has been placed as close as possible to the aperture, still there is enough offset to hinder accurate framing in extremely critical close-up work. On the other side of the 70-DA turret head is a critical focuser which permits of hypercritical focusing on an area in the exact center of the total picture area. The focusing position is necessarily even farther removed from the lens photographing position than is the viewfinder.



Showing camera in position for exact alignment with viewfinder

The focusing Alignment Gauge takes care of the offset in each instance. It attaches to a standard thread small camera tripod by means of the regular screw. The Filmo 70-DA camera then attaches to the gauge's sliding block by a thumb screw. The block on which the camera is mounted slides on a precisely machined tool steel track resembling a lathe bed. Three accurately placed holes in the bed cause automatic locking in view finding, focusing, and photographing positions. Thus the viewfinder, and later the critical focuser, may be centered and used exactly where the lens will be when the picture is taken. One can therefore readily imagine the boon this will be to the title maker and to the man who does much close-up work.

For trick title work involving double exposures the new accessory will be found particularly useful, due to its ability to line up different shots so that they will center perfectly and be focused accurately. As everyone will readily admit, nothing is more objectionable in this type of work than to have one of the exposures fuzzy and the other sharp or to have one of them a bit off register.

For surgical and medical photography, for industrial photography particularly of small objects, in fact for all work where accuracy of alignment and focusing is desired on close subjects, this new device should be valuable.

•

New Levee Contract

M. C. LEVEE has been presented by B. P. Schulberg with a new contract as executive manager of the Paramount studios.

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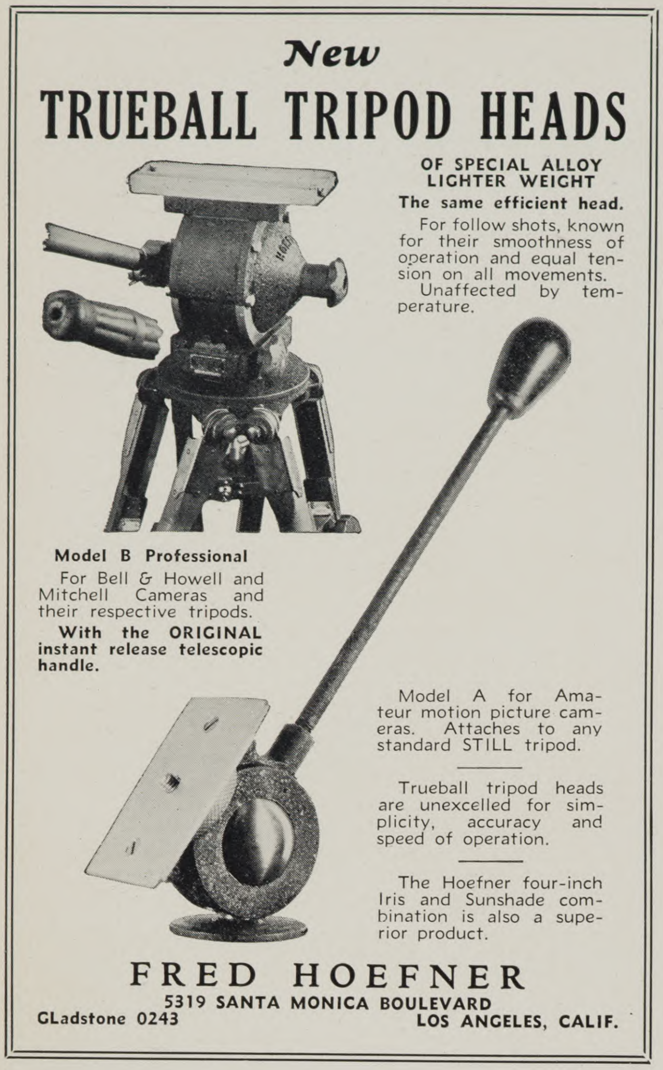

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Of Interest to DeVry Owners

THE FOLLOWING notification from the Q. R. S.-DeVry Corporation should prove of interest to all owners of their equipment. The notice follows:

We are very pleased to advise that through our engineering resources and the ability to manufacture Portable Projectors, we are now entering the market with a Sound-on-Film Talking Motion Picture Projector and, in the course of manufacturing this new unit, we have provided features which will enable our engineering department to convert your present DeVry Silent Portable Projector into a Sound-on-Film.

No doubt you are finding an urgent need for a sound-on-film portable projector with the same degree of portability, which will show both silent and sound pictures. We know you are interested and would be very pleased to give you full details on how your present silent portable projector can be converted if you will kindly return the enclosed business reply card with your name and address, giving details as to the model and number of the projector you are now using.

We also wish to advise that our Portable Sound-on-Film is manufactured completely in our factory, each and every part being under the supervision of very capable engineers and it is not an assembled job. When we convert your present silent portable type into a sound-on-film you can be assured that each and every part going into this equipment will be supervised and manufactured in our plant. The highest degree of workmanship and best of material available are incorporated into our new sound-on-film unit.

●

Portable Sound Equipment

(Continued from Page 21)

The bullet type microphone furnished with this outfit is two stage microphone and uses condenser transmitter. It is built with a swivel head which can be pointed in any direction and is made of the very best materials obtainable. It has a Cannon connector and the covering can be removed in a few seconds by loosening three screws and is very easily accessible to change the tubes. The microphone stand is collapsible and of sturdy construction as the microphone is the heart of the unit and the stand must be sturdy enough to protect this delicate instrument.

Art Reeves

The camera motor hangs under the tripod and drives the camera with a flexible shaft. It is quickly attached and the camera can be operated by hand or by motor.

With this double system one is sure of always getting good sound track and it will more than pay itself, and be more practical for carrying the extra weight of a recorder and the recorder motor battery to be sure and have results, for after all it is the result that counts.

Form World Wide Theatre Equipment Corporation

THE ANNOUNCEMENT of the forming of the World Wide Theatre Equipment Corporation should be of unusual interest to all theatre owners. The following facts are included in the announcement:

No. 1. A Corporation comprising a nucleus of 15 or more manufacturers of theatre equipment, all of whom are to be manufacturers of non-competitive lines.

No. 2. The Corporation offices to be established in a principal city of the United States.

No. 3. The Corporation officers will consist of President, Vice-President, Secretary and Treasurer and a Board of Directors consisting of one representative from each manufacturing organization admitted to membership, in addition to the active officers above mentioned.

No. 4. The Corporation will conduct its business, correspondence, literature in the form of catalogues, loose leaf trade and price lists, promotion work pertaining thereto, in the language of the country with which it does business.

No. 5. The Corporation will cause to be printed on all its stationery and literature, with the exception of envelopes, the name of each associate manufacturer.

No. 6. The Corporation will undertake four campaigns— (a) Direct to the theatre campaign, (b) Dealers educational campaign, (c) Newspaper and magazine advertising, (d) A campaign through the U. S. Department of Commerce and its foreign field offices.

No. 7. The Corporation will establish a bureau of information. This bureau to work in cooperation with the U. S. Department of Commerce in so far as is practical and possible. Its purpose will be to act as a medium between this organization, the U. S. Department of Commerce and any and all commercial organizations now in existence, or hereafter to be formed, relating to our particular lines of endeavor, thereby bringing all members of our Corporation into closer contact with the dealers and the purchasers.

No. 8. The Corporation will maintain a showroom, displaying a full line of samples which are to be supplied by the manufacturer.

No. 9. The Corporation will, as soon as possible and practical, place before 40,000 foreign theatres the knowledge, use and advantages of the manufacturers product.

No. 10. Each manufacturer will become a part of this Corporation in the form of stock holdings, said stock will be the VOTING STOCK.

No. 11. Each manufacturer will have a voice in the management of the Corporation through its representative on the Board of Directors, in addition to participating in the profits of the Corporation.

No. 12. Each manufacturer will give the Corporation the exclusive rights of distribution and sale of his non-competitive products for the entire world with the exception of the United States.

No. 13. Each manufacturer will deliver to the Corporation all inquiries from prospective purchasers or otherwise, as and when received from foreign countries or from foreign representatives located in the United States.

No. 14. Each manufacturer will have, through this Corporation, a wider introduction and distribution for his products through the world than is now at his command at a cost much less than it takes to introduce his product in one specific country.

No. 15. Each manufacturer's prospective customer for his product will know that they are dealing with a reliable organization made up of dependable manufacturers of the highest standing and not "BOOTLEGGERS."

No. 16. The efforts and full cooperation of all manufacturers in the Corporation will be co-ordinated into one unit thereby producing far greater benefits than through individual effort.

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Ground Noise Reduction

(Continued from Page 13)

UX-250 tubes in parallel, fed by a 180-volt storage battery. A small meter control box containing two 0-to-500 milliammeters is used with a switch for breaking plate current and aiding battery current to the voice coils.

Each voice coil has connected in series with it a milliammeter indicating the variations of current in each circuit. A variable resistance is also used in series with the battery to adjust its value so as to make the voice coils balance electrically, that is to say, when one is at maximum current, the other is at zero, and vice-versa. These meters, therefore, represent the movement of the shutter.

Work on the system described was first started in November, 1929. Practical results were obtained in February, 1930, and the device put into production on Radio Pictures, "Dixiana," in March, 1930. "Dixiana" was released in August, 1930. After further development, the system was again used on Radio Pictures' production "Half Shot at Sunrise," released in September, 1930. Since this time, development has continued with the aim of simplifying and reducing the amount of apparatus necessary and to procure simpler adjustments in operation. The device will continue in use on forthcoming R-K-O productions.

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Amateur Movie Making

(Continued from Page 30)

tilt head (such as the Thalhammer, for instance), it is easy enough to get an exact set of legs, cut them off to the proper length—a foot or perhaps 18 inches—and then shift your complete tilt-head onto the baby whenever you need it. Try it!

The Latest A. C. L. Bulletin

One of the most interesting little booklets which has come my way for some time is "Exposure in Essence," by Russell C. Holslag, the Technical Consultant of the Amateur Cinema League. Officially this monograph is Bulletin No. 4 of the League's Technical Service for its members, and it is, despite its brevity, one of the most complete reviews of the exposure problem yet printed. Volumes could be written upon this important subject, and Mr. Holslag is to be congratulated upon the excellent way he has condensed the vital facts of exposure into this neat, 32-page booklet. Beside treating both the theory of exposure, and the principles of the more common types of exposure-meters, the author gives considerable attention to practical examples of exposure. Furthermore, he emphasizes a fact which is all too seldom stressed: that the proper exposure for any given scene is not necessarily that which would be technically correct for the scene as a whole, but that which is best for the object of chief interest in that scene. If any criticism were to be made of the book, it would be that too little attention was apparently paid to securing illustrations which would give visual demonstration of this, and similar points, and thereby increase the effectiveness of the excellent text.

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Talking Movies Aid Sales

GEORGE W. STOUT, Advertising Manager of the Perfect Circle Company, makers of piston rings, declares that talking motion pictures have proven one of the greatest sales promotional efforts ever made by his organization. He predicts that such pictures will become one of the major selling forces within the next two years.

Mr. Stout's organization uses the Bell & Howell Filmophone, and says that in January of this year their pictures were shown to 11,549 people; February to 10,269. He declares that they can put over things more forcefully with the pictures than in any other way.

FOREIGN NOTES

First India Sound Studio Opened by Madan Company

THE first studio in India for the production of sound pictures has been opened at Tollygunge, suburb of this city, by Madan Theatres, leading circuit operators. The new studio is built on a site comprising seven acres of land and the building itself is 100 feet long and 30 feet wide. Recording equipment used is RCA Photophone, mounted on two five-ton trucks, one of which carries the power unit and the other the actual apparatus. It was decided to make the equipment portable in order that it might also be used for newsreel work.

European Sound Picture Theatres Show Striking Gain

THAT EUROPE has gone "talkie" in no uncertain manner is evidenced by the striking increase in the number of theatres wired for sound reproduction during the past few months, according to advices received in the Commerce Department Motion Picture Division from Trade Commissioner George R. Canty at Paris.

According to the report the number of sound theatres in Europe increased from 5,400 on October 1, 1930, to 7,720 on January 1, 1931, a gain of 1,320 within three months.

New Diet Film

AN INTERESTING and instructive film, "Food Makes a Difference," has been made by the Motion Picture Department of the U. S. Department of Agriculture, sponsored by the Bureau of Home Economics. The film is in two reels and shows the defects resulting from poor feeding, and also shows very well how these defects may be overcome by proper food. It is a picture that is of vital interest to all parents. It may be secured for showing by Parents Associations, womens' clubs, etc., free, by writing the Department of Agriculture at Washington, D. C.

French Firm to Market New Wide Screen Device

PARIS—A new company, the French Societe Technique d'Optique et de Photographie, has been formed to market the Hypergonar, a device invented by Professor Henri Chretien, which is claimed to make possible the projection from ordinary film to wide screen without revamping of apparatus. The Hypergonar is described as an optical system, which is placed in front of the camera when scenes are shot, and compresses the images optically.

Sydney Device Company Chartered

SYDNEY—Sound Re-Productions, Ltd., a new equipment company, has been chartered here with a capital of $30,000, to take over an improved apparatus for reproducing sound from sound recorded films and all improvements in such apparatus. Incorporators are L. Rowson, H. G. Guinness and G. Crick.

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Government Sound Pictures

PRODUCTION of sound pictures has been initiated by the U. S. Department of Agriculture in its own studio in Washington. A complete sound-on-film recording system has been installed by the department's Office of Motion Pictures and the work of scoring lecture pictures is going forward.

The recorder has been installed to run synchronously with projectors equipped for the projection of sound-on-film, so that it can be utilized for scoring existing silent pictures with sound effects or lectures, as well as for recording speech in synchrony with cinematography made by a camera interlocked with the recorder. The old projection room of the Office of Motion Pictures has been converted into a sound studio for scoring.

One of the films scheduled for conversion into "talkies" is, "Forests or Wasteland?"—a Forest film completed last fall as a silent film. Another is the Indian Sign Language film that the Office of Motion Pictures is making for the Department of the Interior, under a special appropriation. Maj. Gen. Hugh L. Scott, retired, will deliver the lecture that is to accompany this film, which is designed to constitute a permanent record of the Indian sign language.

The Department of Agriculture now has in circulation more than 200 of the nearly 400 films made since its motion picture work was inaugurated, about 20 years ago, but it is likely that relatively few of these will be made over as "talkies." Department officials say that the rapidity with which production of new talking pictures develops will depend largely on the demand from the extension field, and that there is reason to believe that this demand will be greatly stimulated in the near future by the appearance on the market of cheaper and more portable sound-on-film equipment than has been available to field workers.

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Jones Lab Markets Portable Projector

A NEW portable projector, known as the Jones Ace and designed especially for use in sales instruction, sales promotion, and for use in institutions, theatres, auditoriums or homes where the projection of a bright, clear, steady picture is desired up to 15 feet in size over a distance of from 10 to 120 feet, has been developed and is being marketed by the Earle W. Jones Research Laboratories of New York.

Equipped with a sound head, which the company claims from an engineering standpoint is absolutely foolproof, the Jones Ace, while sturdy in construction and designed to stand the strain of heavy duty work, is light in weight. Castings are of the highest grade aluminum and the total weight of the projector is only about 35 pounds, the company states.

Glenn R. Kershner
A. S. C.

First Cinematographer

c/o A. S. C.
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